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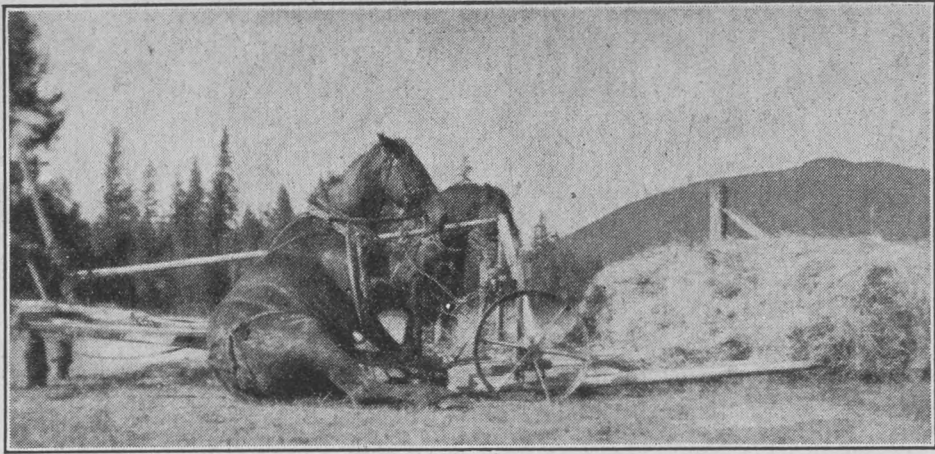
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[Photo by Helen Urchit, Heffley Creek, B.C.]  
The title should be "While the boss is having a smoke." Actually it is the outcome of an unsuccessful attempt to run away.

THE  
Country  
GUIDE

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R. C. BROWN, Managing Director

Editors: P. M. ABEL and H. S. FRY.

Home Editor: AMY J. ROE

Associate Editors: RALPH HEDLIN and R. G. MARTIN

Advertising Manager: K. D. EWART.

Extension Director: G. B. WALLACE

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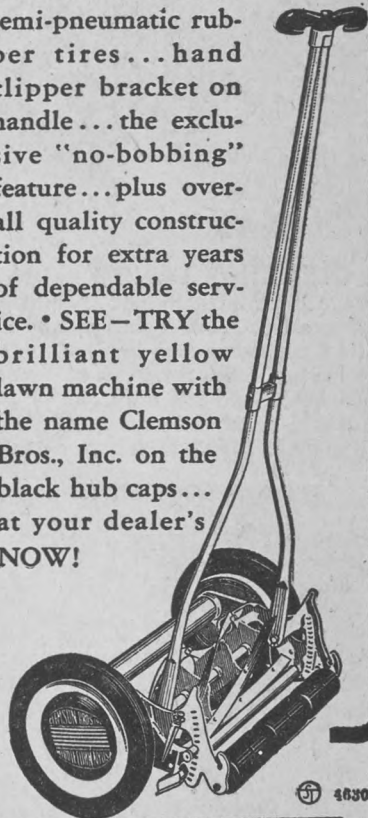
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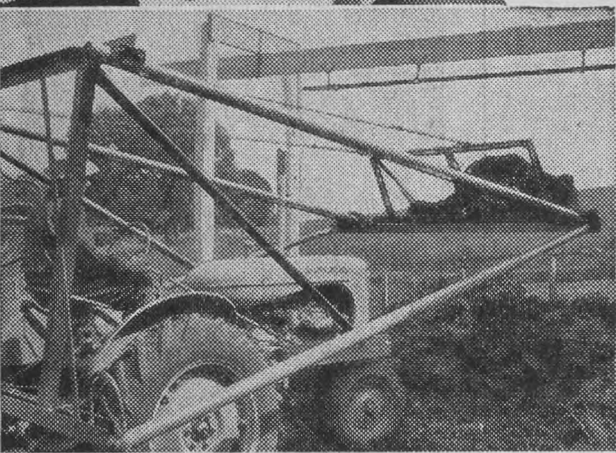
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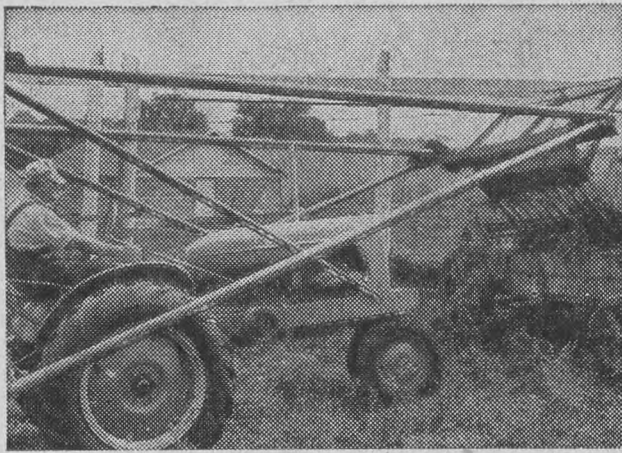


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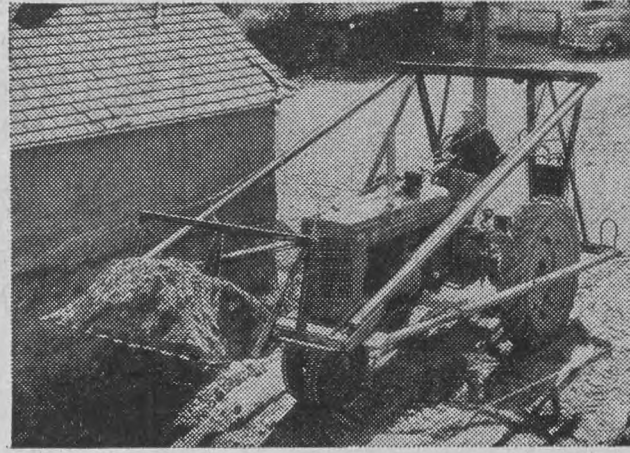
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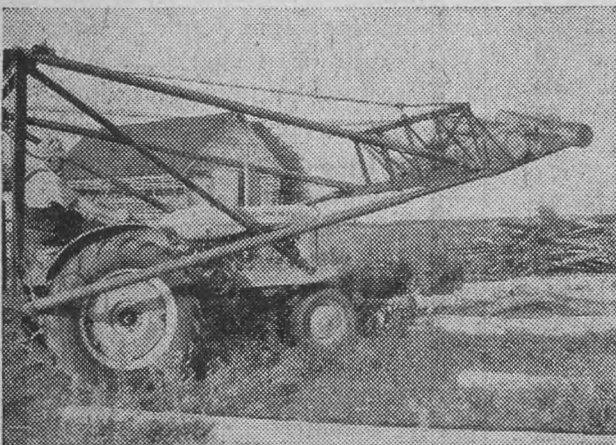
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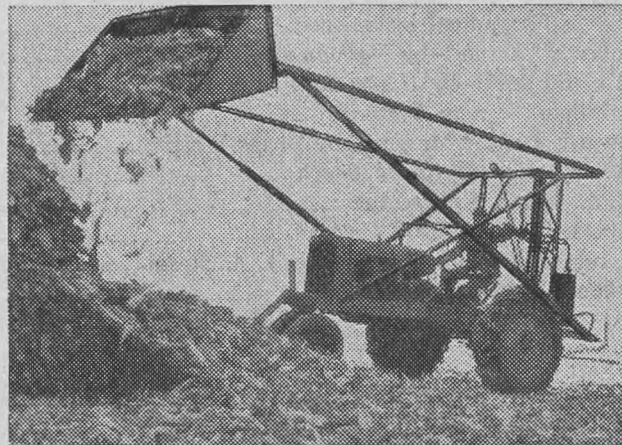
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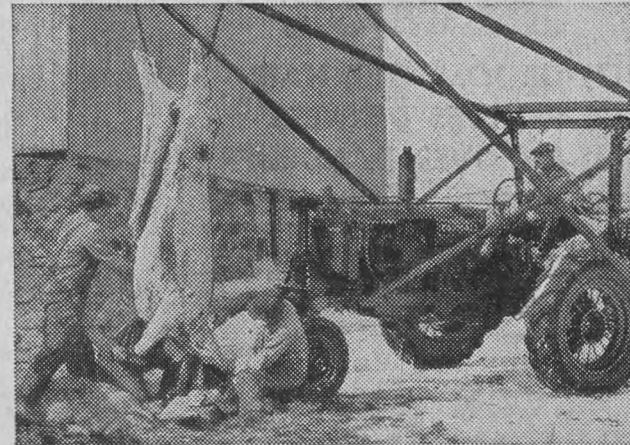
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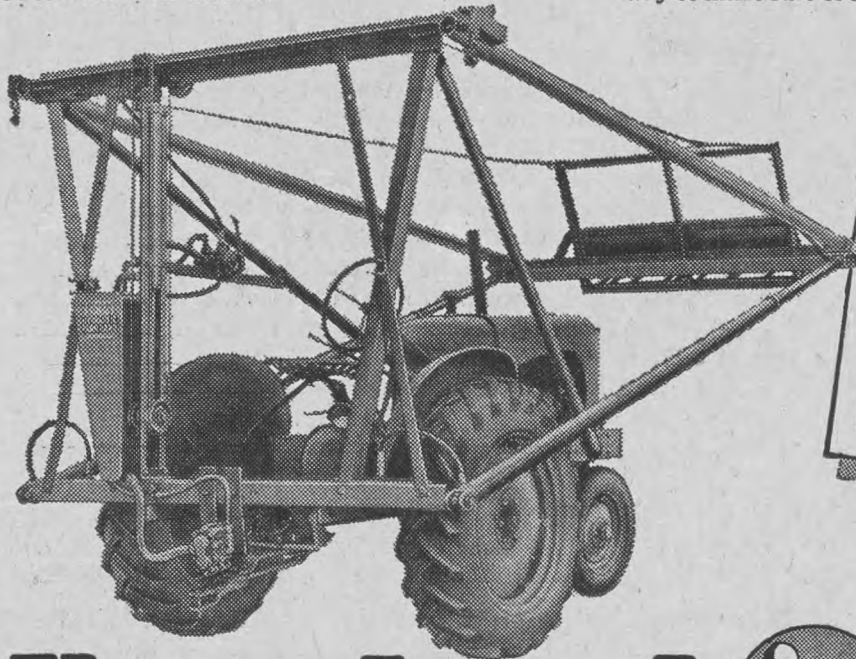
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## HYDRAULIC LOADER



# Under The Peace Tower

UP till now, George Drew has stolen everything on the Hill that was not nailed down. He has stolen the headlines, he has stolen the time of the House, he has stolen the thunder, he has stolen most of the publicity, much of the popularity. George Drew's March on Ottawa, to date, has been a great success. He has taken parliament by storm.

Now I am perfectly aware that Gorgeous George, as he is all but universally called, has been called a Morning Glory. They have said of him: he'll wilt. The Liberals have said: just wait till we bring up the big guns. The C.C.F. have said: we'll skin him alive. Well, the last time I looked, the Liberal big guns were sounding off like cream puffs, and Drew was still wearing the same skin he arrived here with.

I am not here arguing that ultimately that they won't get Drew's measure, because sooner or later, it happens to them all. I cannot forget Hon. R. B. Bennett's glorious start, his inglorious finish. I am therefore not enough of a crystal gazer to see Drew's future. But I take my facts as I find them.

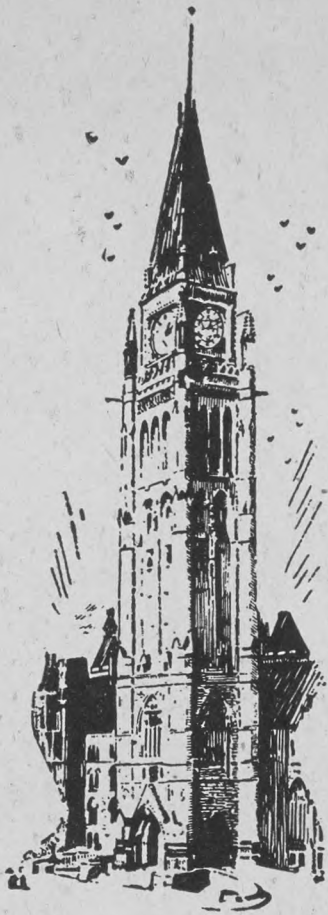
Right from the start, Drew came out of his corner, fighting. On the opening day, after the amenities were over, George Drew caught the new prime minister with a solar plexus punch, and followed it up with fast lefts and rights to the sore spots, till the Liberal leader conceded the fight. True, it was on procedure, and true, nobody who gets his mail at Beulah, Manitoba, or Balgonie, Saskatchewan, is likely to get *het* up about it. But the fact is that he, the newcomer, the supposedly cocky and complacent Drew, who was to have his ears pinned back pronto, did in truth pin back the government's ears.

Ever since, Drew has been forcing the fight. The Liberals, who looked so good last year, and the year before, seem like a bunch of tame tabbies. Up till now, they don't belong in the same league with Drew. Mind you, I am not saying this will last. But after all, I am sitting down and writing this piece as February fades into March, and not with the knowledge of what will happen from now till next June behind me. I simply say that Drew has hit the Liberals with everything but the Speaker's chair.

EVERYBODY expected that Drew would make good speeches. But they all said he made his own rules of order, and ran his Ontario House like a Kangaroo Court. That's not the way I see it here. Drew obeys the rules, seems to know them inside out. It has been alleged that he is a man of impulse, that he would lose his temper, and that he'd blow so high they'd have to scrape him off the roof. Up till now, George Drew's feet are still planted firmly on the ground, and he's been as casual and calm as MacKenzie King ever was. How long it will last, I can't tell you. But up till now, he's had ice water in his veins.

At this writing, a western Liberal editor got off the train, went over to a Liberal writer in the Press Gallery, and said: "What is the matter with you fellows? Drew's getting away

The opinions expressed Under the Peace Tower are those of our correspondent and not necessarily those of The Country Guide.



with murder. You cannot pick up a paper but what Drew has the headlines? Can't you do something to stop that?"

The veteran writer had to admit there wasn't much else to write about, up till now, except Drew. The plain truth is that you can pick up any daily paper in Canada, and somewhere on the front page you will find a story where the headline begins:

Drew . . . then goes on to say what Drew has said or done.

NOW the Liberals say their strategy is that they will let Drew get away out in front, then trip him up. They claim that like the Morning Glory he is, he will wilt in the noon-day sun. Maybe. They go on to say that once they have spread their legislative program across the country and before the voters, they will give Drew quite a beating. But first of all, I'd say, let's see that program, let's hear those speeches. What the Liberals say they are going to do is not as effective as what Drew has already done.

Don't get the idea that I am a sudden convert to the Progressive-Conservative party. Far from it. But I have watched George Drew for quite a while now. I have heard everything bad about him one could. I have watched him come from being a cocky civilian to a wobbly politico. Back at Winnipeg in 1942, Drew was not the sure fellow he later became. I have seen his enemies condemn him, have seen him confound them. I have watched him win three provincial elections in a row. If you think that is easy, count on your fingers how many provincial premiers have done it! I saw him walk in and take the Progressive-Conservative convention here at Ottawa, as if there were no opposition, and he had very good opposition too. Drew, Man of Destiny, rolls on.

The Liberals insist they will catch him. But if he gets too big a lead they never will.

P.S.—Drew can also win by-elections.

*[Signature]*

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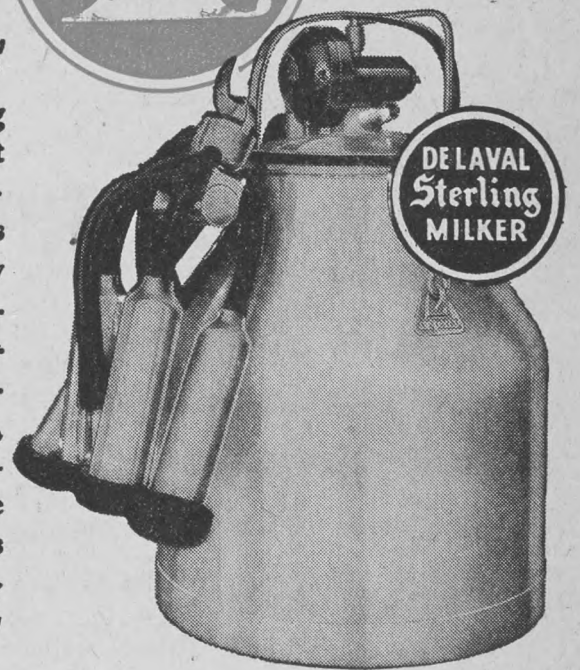


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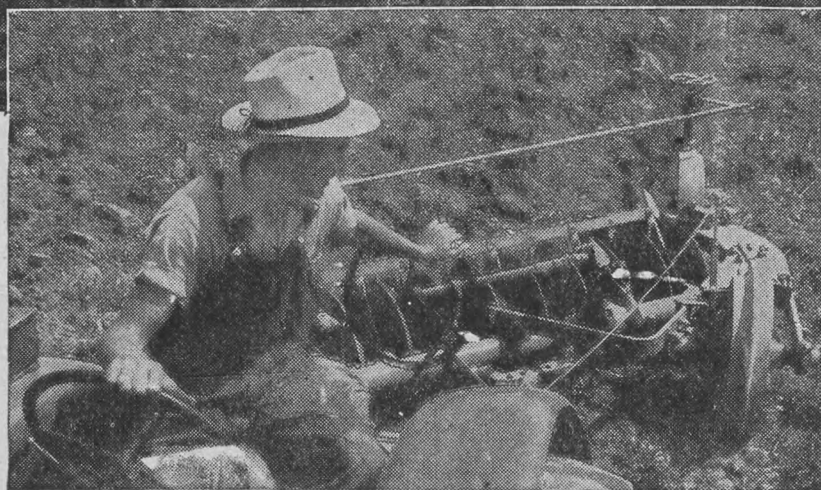
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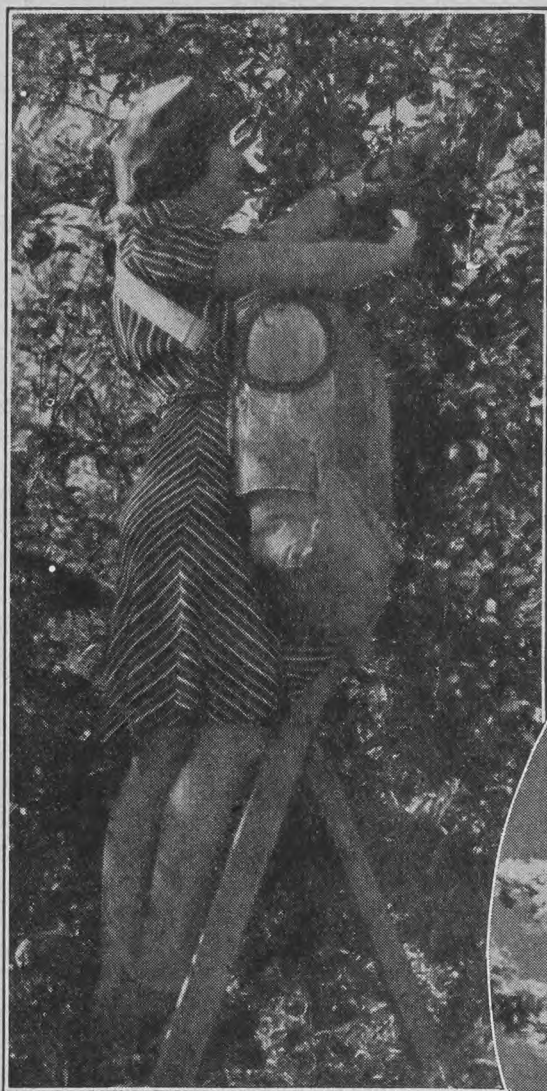
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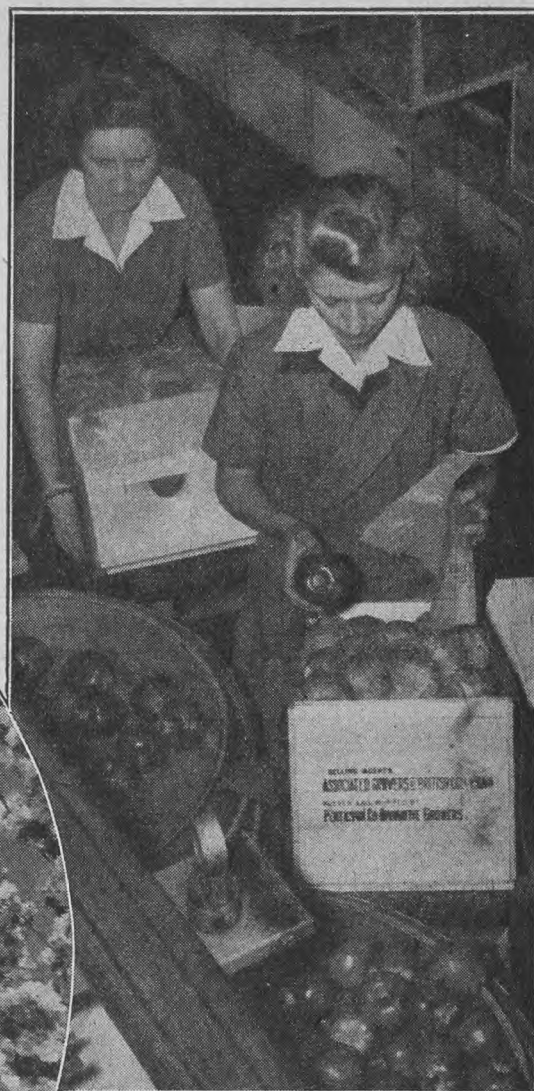


# SELLING THE APPLE CROP

by G. E. VALENTINE



Picking apples at Oliver, B.C.



Apple packing at Penticton, B.C.

**T**HAT ancient ogre of the farmer—"Surplus—No Sale"—is on the rampage again. Already he has struck hard at the Maritime potato industry. And Britain's decision to cut out all apple imports from Canada has been a body blow at another important branch of Canadian agriculture. But there is a big difference in the way our two great apple-growing areas are taking it.

Down the pleasant slopes of Nova Scotia's Annapolis Valley, growers are groggy and staggering. Britain's refusal to import even dried apples leaves them with an unsalable surplus of half their smaller-than-usual crop of 700,000 barrels, hanging to the ropes of government subsidies to the tune of \$1.5 million of federal funds this year alone. Some 4,000 formerly-prosperous Nova Scotian fruit farmers are facing the unpleasant prospect of tearing out hundreds of thousands of their best trees, planting and grafting over to entirely new varieties, and developing a new system of packing and marketing. It's not easy to start life anew after doing business at the old stand as long as they have down in Annapolis.

Out in British Columbia's sun-seared Okanagan—more sun-starved, though, in freakish 1948—a similar number of fruit growers have also been hard hit. They, too, used to sell half their crop of apples to Britain. But they have rolled with the blow and dodged away; and their planned defence has turned out so successful that they are a little surprised themselves.

**T**HIS is the season when worries thrive out there, with early spring the favored time for announcements about how poor sales have been, how hopeless future markets look, and how dark the outlook is generally for next season's crop, if it isn't all ruined by frosts, hail, insects, or other little harbingers of joy. This year, figures released so far of the sales of the 1948 crop are so ahead of expectations that the harassed fruit farmers are almost cheerful.

Although last year's apple crop amounted to some six and one-half million boxes, three-quarters of it had been disposed of by the middle of January. That leaves five months before any Canadian fresh fruit is on sale again, and with both U.S. and Cana-

dian markets receptive, it should not be impossible to dispose of all the rest. The Okanagan doesn't want to be too optimistic; it was a relief when the federal government announced recently that it would underwrite a floor price on a quarter-million boxes of small Newtowns if left over. But growers hope that even that small amount of artificial respiration will be unnecessary.

How do they do it? The answer seems to be quality fruit and efficient marketing, both of which stem from the dauntless spirit of Okanagan growers themselves.

**M**AYBE it is a blessing that not enough of the gentle rain from Heaven falls on the Okanagan to grow anything more than sagebrush, cactus, and bull pine. An orchardist needs plenty of energy and ambition to irrigate an apple tree every week every summer for fifteen years before it comes into bearing. And the more one has to irrigate and cultivate and fuss with the trees to get fruit, the more particular he becomes about the quality of that fruit too.

Okanagan growers have been pulling out trees for over ten years, getting rid of the old varieties which will not keep or stand shipping well. Not only the old-fashioned Russets, Baldwins, and Kings, but even the crisp and juicy Wagners and Northern Spies are rapidly disappearing, and the Jonathan, no longer in demand from Britain, is being looked

*Britain's import restrictions have hit some specialty crops hard. In our last issue R. D. Colquette told what was being done with potatoes in the Maritimes. B.C. apple growers also face trouble. The measures they are taking are described herein.*

on with a stepmotherish eye. More and more growers are concentrating on tried and proven favorites in the North American market—Wealthy, McIntosh, Delicious, Newtown, Winesap.

Even some of these are being pulled out in order to leave more space between trees, and thus allow the entry of more sunlight to give better coloring to the fruit. Trees spaced 60 feet apart are now found

in some Okanagan orchards; original plantings were as close as 15.

Much emphasis is laid upon pruning, to let in light, increase the size of fruit, and make picking easier. This month of March it will be in full swing, after an unusually severe winter, and a visitor would be horrified to see the way large and small branches are slaughtered out of fine, upstanding trees.

"Sure we cut off a lot of fruit with that wood," the grower will tell you. "But if we get better fruit on what's left, isn't that what we're after?"

In June and July, tourists from further east are often shocked to see men on ladders surround a helpless apple tree and rip off the helpless little green apples by handfuls until the ground is carpeted with them and few seem to be left on the tree. But the orchardist is quite cheerful about that too.

"Less apples left on the tree, the more they grow. Got to thin now to get big fruit in the fall."

All during spring and summer the trees are sprayed regularly, to make sure no insect pests will spoil them; last year DDT was extensively used, with great success.

**W**HEN harvest time comes, there is no leisurely picking the apples "when one gets around to it," and carrying basketfuls of them into bins and barns to store away there until one gets time to pack the apples into barrels and ship them. Instead, there are fixed dates for starting to pick each variety of fruit, and once the season opens, pickers rush to get the fruit off the trees as quickly as possible, picking it carefully into bags and transferring them to boxes which that day or the next will be trucked away to fruit packing-houses.

Here they are stored in cool rooms or, if not to be packed for some weeks, (Turn to page 66)





A "Travelling Library" being packed at headquarters in Regina for a country audience at some distant point.



The Saskatchewan Department of Education is attempting to place library facilities within the reach of school children.



Non-fiction, informational books are mailed from the Public Information Library to readers throughout Saskatchewan.

# BOOKS

## for The Asking

*Saskatchewan's library service brings good reading to farm families throughout the year, and offers a wide choice to individuals of all ages.*

by RALPH HEDLIN

drove out of town he had with him a box of books—a Travelling Library—and a book from the Public Information Library—both distributed to rural readers under the authority of the provincial government.

The Public Information Library and the Travelling Libraries co-operate to give a balanced diet of reading to rural Saskatchewan. The Travelling Libraries are designed to provide pleasure and relaxation, and, as most of us relax over a work of fiction, these libraries are primarily fiction. However, some people get greatest pleasure out of non-fiction, so a smattering of that is included. The Public Information Library is basically non-fiction.

**T**RAVELLING libraries are no new thing in Saskatchewan. The records in Regina go back over 30 years. The type and number of books has altered over that time and the use that rural readers make of the service has increased. The libraries, like everything else, suffered from the scarcity of funds during the depression, but, since that time, have expanded substantially.

Headquarters of the vast Travelling Library enterprise is in Regina. If a rural community decides that they would like one of the boxes of books an application form is sent to Regina. At least six persons in the district must sign the form, indicating that they are prepared to accept responsibility for the proper use and care of the books. The form should also include some indication of the racial extraction of the people and the kind of books in which they are interested.

When the application arrives the librarians do not just fasten an address tag to a box of books

and send it out. The first step consists of looking at a large map of the province, that is dotted with tacks—each tack represents a box of books out on loan—and so determine if there is already a Travelling Library within five miles of the point from which the application comes. If there is not already a Travelling Library in the district a box is packed, paying attention to the information on the application form, with respect to the desires of the people in the district. The box will include 60 or more books, mostly fiction. Even if a special request is made for fiction a few non-fiction are included. The reason for this is that some people may develop a taste for non-fiction if it is available, and the library authorities feel that they should make every effort to cultivate balanced reading habits in their members.

When the application is received a file is opened on that district. All correspondence is kept in this file, and also a list of the titles of all books that are sent to the district. When another request is received for a box of books this file is opened. The correspondence is noted to determine the types of books desired; the titles of books in boxes loaned any time in the last eight to 10 years are noted, to avoid sending the same title; and the records, kept by the borrowing district, of the number of people that read each book is checked to determine the authors and type of books preferred in the district. Armed with this information the librarians prepare to select those books that will provide the greatest amount of pleasure in the district to which they are being sent.

When the librarian selects the books she has about 100,000 from which to choose. A very large number of these are out on loan, of course—the location map shows about 1,000 libraries scattered over the province. This still leaves a lot available in the library. In 1947 a total of 23,305 new books were purchased representing 716 titles. As might be expected several hundred copies of a really popular book are purchased at one time. If this were not done many readers would have to wait years to read a book in which they were particularly interested.

A glance at the library records reveals some interesting facts. The 1,000 boxes of books out on loan are scattered all through the province from the American border to the far north. Some of the boxes have an interesting and varied trip on their way to meet their readers. Some of the boxes go to points that are served by only two boats a year. Buffalo Narrows gets a box of books; at this distant point the readers consist largely of Metis and some French, English and Norwegian Canadians. Some boxes of books go to distant Hudson's Bay posts, where the factor and his wife act as librarians, and the readers are largely trappers and missionaries.

The locations in which the library boxes are housed paints, in broad strokes, the picture of our rural institutions. There are boxes housed in farm homes, village homes, telephone exchanges, the local newspaper office, co-op stores, post offices, teacherages, lumber yards, barber shops, Catholic rectories, municipal offices, local hospitals, dental offices, community halls, elevator offices and cafes. Any person who is willing and who is conveniently located is likely to find himself named as the local librarian.

**T**HE Public Information Library—originally known as the Open Shelf Library—is not as old as the Travelling Libraries, but is approaching its thirtieth year for all of that. It was brought into being in 1922 at the request of the Women's Section of the Saskatchewan Grain Growers' Association. The feeling was that books of educational and literary value should be available to rural readers.

Interest in the new library was keen from the start, and expansion was rapid, until it was stopped by the depression. The interest of readers was found to be very great and in the depression days, with the staff reduced and appropriations cut, it was difficult to take care of the demand. In more recent, more prosperous days expansion has been resumed.

(Turn to page 71)

**H**ALF a dozen farmers were standing about on the station platform in a northern Saskatchewan town stamping their feet, and beating their hands across their chests. The sun was slanting toward the horizon and the thermometer had begun to fall. The train was already two hours late, but its distant whistle had called the few farmers in town to the platform.

"Here she comes," called Mr. Smith as the train, with a long drawn whistle, rounded the bend a mile from the station.

After the train had gone and the teams were pulling out of town Mr. Smith drove up to the station, hoisted a large, grey box into the back of the sleigh and drove across to the post office where he got the mail, including a book wrapped in brown paper, and addressed to his wife. As he

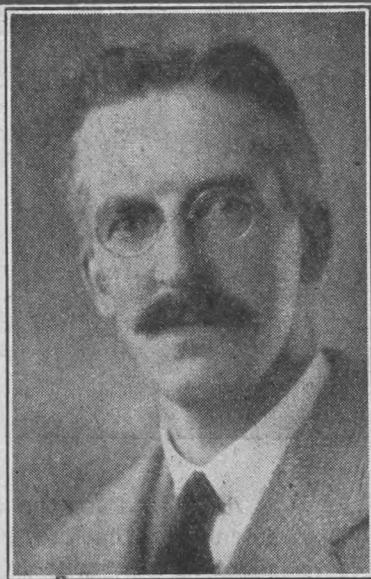


# Jim Brown's Story

*as told to a Brandon  
farm audience and retold*

by P. M. ABEL

*An old story dramatically highlighted  
and furnished with a new ending—the  
first account of the discovery of excess  
Molybdenum in certain Manitoba soils,  
and its significance in livestock feeding.*



Prof. J. M. Brown, University  
of Manitoba.



Arnold E. Edie, who worked on  
the problem.

**I**T is not so many years ago when scientists considered that if an animal got a sufficient number of calories in its daily ration, made up in the proper proportion of proteins, carbohydrates and fats, that it ought to be able to maintain itself in a state of well-being. We know better than that now. By a series of interesting steps we have discovered that substances classified under the general heading of "ash," literally the ashes left over after burning a sample of feed, may play a critical part in animal nutrition.

In 1897, a Dane, Dr. J. Schmidt, discovered a treatment for milk fever. No disease was ever more misnamed than milk fever, because the patient shows no fever symptoms. However, Schmidt found that if the udder was inflated with air the affected animal recovered. Livestock men the world around adopted Schmidt's treatment and used it for many years without finding out how it was that air pumped into a gland would get a paralyzed cow back on her feet.

Thirty years later, two investigators working at the Royal Dick Veterinary College in Edinburgh discovered that cows suffering from milk fever invariably showed a marked calcium deficiency in their blood.

The discoverers did not follow up that clue, but in the hands of Dr. W. E. Peterson of Minnesota it yielded astounding results! Dr. Peterson argued with himself thus: "If I can administer a drug which will cause an immediate fall in the calcium content of the blood I ought to be able to produce artificially a clinical case of milk fever. Conversely, if I can restore the calcium quickly I ought to be able to affect a cure."

**P**ETERSON put his bold hypothesis to the test. Taking a dry cow, he injected a 20 per cent solution of sodium citrate into the blood stream, which would have the effect of converting the blood calcium into a form which would be rapidly oxidized and eliminated. The speed of the reaction was astonishing, even to this brilliant scientist who had plotted it all out in advance. Within five minutes the cow was down, stricken with all the alarming symptoms familiar to dairy farmers.

Dr. Peterson then injected a predetermined quantity of calcium chloride into his artificially paralyzed patient. This was a direct addition of calcium in a form which could be used by the body, and should restore exactly the mineral balance which existed before the experiment began. The reaction was electrifying. Within a minute the cow began to look around and take an interest in life again. Within five minutes she was up on her feet and moved off under her own steam, still groggy, but rapidly regaining strength. Before the day was out she was apparently recovered.

The experiment was carried out over and over again. Every time the same train of events followed. It was a dramatic demonstration. More like black magic.

Scientists began filling in the missing details. They reasoned this way. Milk contains a generous amount of calcium. A heavy yielding cow may not get enough calcium from her ration to supply the demands made on her. She must, therefore, draw on reserves in storage. The animal stores its reserves of calcium in the long bones. Canada's own Dr. Collip discovered that the translocation of calcium from its storage place was controlled by a small

gland, the para-thyroid. If removal from the bones proceeds too far or too fast the calcium content of the blood drops. If it drops far enough, the animal dies.

Looking backward, one may discern why the air pressure treatment worked. Blowing air into the udder stopped, or at least slowed down, milk production. The cow could meet the calcium demands of lessened milk production from her ration and she would slowly recover. Before Schmidt, milk fever was usually fatal. After Schmidt and before Peterson, few cases ended fatally, but the industry suffered from increased costs and lessened milk production. After Peterson and his contemporaries there was no excuse for milk fever losses. Supplementary minerals in the ration prevented its occurrence. If perchance it made its appearance calcium gluconate provided a quick and reliable cure.

When I first came on the staff of the Manitoba Agricultural College in 1915 we became aware of an unsatisfactory condition prevailing in the livestock industry between Lake Manitoba and Lake Winnipeg. Cattle never seemed thrifty. Settlers were reluctant to keep them because they were not very profitable. A well meaning government promoted the Winkler cow scheme to assist in placing stock on farms and instructing farmers in animal husbandry. The scheme failed, not because of administrative weaknesses, but simply because the environment was unsuitable for stock raising.

We were young then and perhaps not too competent. The cause of the trouble completely eluded us. When Dr. C. H. Eckles, the great dairy cattle authority, came to Winnipeg to address our dairy convention I asked him if the trouble between the lakes could be caused by a lack of calcium. He did not think so. He had been investigating a similar trouble and felt that it was caused by some shortcoming in the feed, but he did not believe it was calcium.

About the same time the Boer farmers in South Africa were suffering heavy losses from a disease they called "lamziekte," translated into our terms, lame-sickness. The losses were so heavy that the British government in London released its own veterinary director-general and armed him with a million pounds sterling to find a cure. Dr. Tyler

gathered a team of scientists about him representing every possible field of knowledge which might conceivably contribute something to a solution.

These men soon discovered that the immediate cause of the disease was a bacteria which cattle picked up by chewing decaying bones. But why should herbivorous animals want to chew bones?

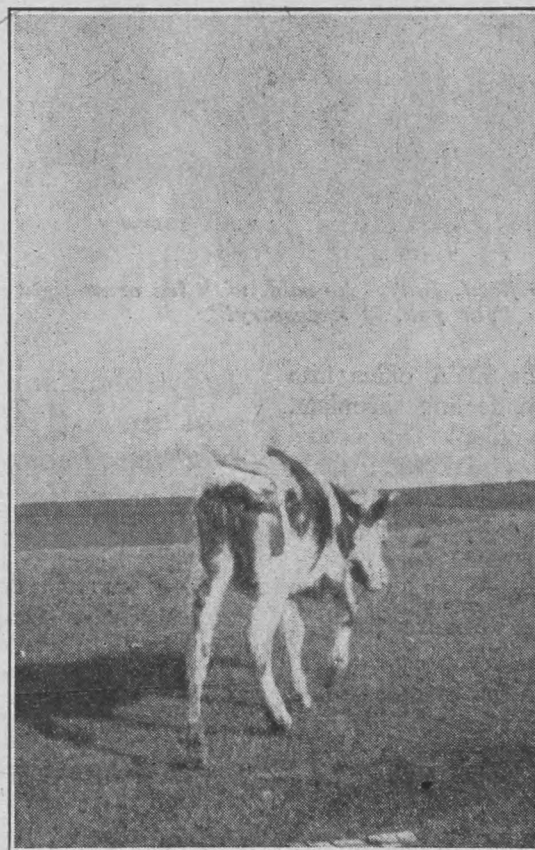
**B**ONES are composed principally of calcium and phosphorus. The scientists discovered that the body intake of calcium and phosphorus must approximate a rough balance. Two of calcium and one of phosphorus was acceptable to the body, or two of phosphorus and one of calcium. If the ratio was wider, say six of calcium to one of phosphorus, the animal's internal mechanism was thrown out of gear.

This was what was happening on the veldt. Its soils were strikingly deficient in phosphorus. Herbage grown thereon was consequently lacking in that element. Cattle fed on it developed a craving for phosphorus, and the only way they had been able to satisfy it was to eat bones of old carcasses, frequently those which had died from lamziekte.

Supplementary phosphorus feeding ended the scourge in South Africa and in our British fashion Anthony Tyler was knighted by the king.

About the same time Dr. Eckles received a letter from a Minnesota farmer recounting fatal losses in his dairy herd. The farmer faithfully described in detail the routine management of his herd, and the quantities of feed they were getting. Eckles studied the ration which seemed to be more than ample. More noted for directness than for tact, he wrote to the farmer saying, in effect, that either he was not feeding the cattle what he said he was, or that he wasn't telling the whole story. The farmer, equally spirited, wrote back. "Do you take me for a fool? Come and see for yourself."

Eckles went. What he saw confirmed in every detail what the farmer had told him. The cattle presented the same clinical symptoms which Eckles had heard about at the Winnipeg dairy convention. He was a much less cocky professor than the one which had written the abrupt letter. However, he suspected that there must be something wrong with the forage, in spite of its good appearance. He arranged to have a quantity of it sent to the university farm. There, by feeding it to healthy animals, (Turn to page 36)



A typical case of molybdenum poisoning in  
Manitoba's Swan River valley.





*"I've remembered how to fight, Judy," he said, with his arms tight about her, "for you, if necessary!"*

# Toil IS THE LAW

By KAY HILL

be penalized for the time they have spent in war and our intention is that they shall be fitted in every way to take their place in their country's civil and economic life.' Or words to that effect." He added abruptly—"I am about to be fitted, by the way—squeezed, pushed, or cut down to the size of a typesetter!"

Judy looked at him uncertainly.

"It's a sort of learn-on-the-job plan," Randy explained wearily. "The DVA adds enough to what the employer pays an apprentice to make a living wage. There was absolutely nothing in the line of office work."

"You have a job, Randy? Why, that's wonderful—"

"Is it?" he asked savagely. "Is it wonderful for a man to discover that his ability is less than he thought—that he has to fall back on his hands!"

"You don't like the job? Then why—"

"A man," he interrupted angrily, "is not allowed to sit idle forever. And it costs money to live, or hadn't you noticed? In six months or a year—if I stay that long—I'll be worth what they're paying me—\$22.00 a week. Of course," he added, with irony, "they're expecting me to stay, become a full-fledged compositor in half a dozen years at maybe forty a week, with inky hands and one good suit for Sundays! University men are going cheap these days. Too bad they didn't teach us to punch a time clock."

Judy sat up straight suddenly, and frowned.

"Stop it, Randy! You're going on like a child, and you sound very much like a snob. What does it matter *what* you do, as long as you do it well, and honestly?"

"A little difference of money, for instance." His voice lowered, and he found himself avoiding her eyes. "I suppose you realize what this means to us. It's finis . . . As a matter of fact, I came here tonight to break our engagement . . ."

"Oh," Judy said flatly.

"I can't ask you to wait any longer."

"You've never had to ask me," she said, staring into the fire, "I happen to love you."

Restlessly, Randy got to his feet, shoving both hands into his pockets.

"It's no good, don't you see? This cockeyed post-war world—men like me aren't wanted in it any more. I've had my youth and my brief place in the sun. Now I'm a has-been. I've learned that I must lower my standard of living to fit my opportunities and capabilities—or lack of them! Such a standard won't permit me to keep a wife and home for a long while, maybe never. And you, Judy, you deserve something better."

Judy jumped to her feet.

"Oh stop talking like a soap-opera! The plain truth of the matter is—you've changed! You've changed towards me. You . . . you've stopped loving me."

"You know that's not it! There's never been anyone else . . . there never will be. It's just that I have nothing to offer . . ."

"Never anyone else, did you say, Randy?" Her voice had dropped, was thoughtful. "That's right . . . never anyone else but . . . Randy."

"What does that mean?" he demanded.

There was surprise in her tone.

"Why, I think it means that you love only yourself, Randy . . . that you've been running away ever since you came home . . . from me, from your job, from work and responsibility. You're afraid of

(Turn to page 52)

*Judy told Randy, "Love isn't something you turn off and on—you are afraid of marriage because you have to work at it. You've forgotten how to fight."*

"You mustn't be discouraged, darling," Judy said urgently. "Dad says this is just a temporary recession."

He looked at her accusingly.

"Have you been talking to him about me?"

"Well—" She flushed slightly. "I did mention that you—hadn't settled on anything definite yet."

Randy laughed shortly.

"WHAT a charming way of putting it! Did he say 'Judy, tell that young man to come and see me. I need just such a bright young man in my office.' No, I thought not. Look, Judy, I'm not asking for hand-outs from friends. That's something the Government is supposed to see to. Listen, I quote—'Men who have taken up arms in defence of their country and their ideals of freedom shall not

RANDY walked out of the DVA office into the five o'clock sunshine, feeling shrunken. How the mighty had fallen! The crowd would get a laugh. Mother would fuss. Only temporarily though, till something half decent came along. But it was more *time* wasted, when he should be settling down to a career . . .

This changed things, of course . . . have to tell Judy . . . couldn't expect her to wait forever . . .

Judy let him in that evening with the usual warm smile and a kiss, and led him to the living-room.

"The family's out, so we'll have the house to ourselves. There's a fire. I'm glad we're having a quiet evening for a change. We've been running around so much lately."

"Nice fire," Randy said, without enthusiasm.

"Isn't it," Judy agreed cheerfully, "sit down. No, over here beside me . . . that's better. Well," she sighed pleasantly. "What did you do today?"

Randy stared into the fire.

"Randy?"

"Sorry, Judy—what did you say?"

"Randy." Her eyes were sober. "What's wrong?"

"Wrong?" He made a gesture of suppressed violence. "Everything, I guess."

"You mean, you haven't found anything you like in a job?"

"Strange as it may seem," Randy said carefully, "no job seems to like me. Probably I should have stayed with Bay Trust—kept on rotting there."

Illustrated by Ken Martin



# The Wolf Dog

by ALLAN VAUGHAN ELSTON

*Mike, that strange half-wolf dog had his own way of rousing a camp, but one morning events moved in an unexpected manner.*

**T**HE six lumps in the dark were sleeping bags. In each bag was a man and all six men had the weariness of yesterday's long ride up the mountain.

Near them lapped the wavelets of Lower Lake; on the other three sides a spruce forest closed darkly around. From far up the water came the monody of Bitter Creek plunging from Upper to Lower Lake.

The shape of a small tent loomed by the sleepers—so small that it was used only to shelter supplies and to huddle in during rains. The night was almost spent, now, and a faint light began seeping in to dissolve moon-shadows on the lake. A watch which one of the sleeping men had hung on a tree showed half-past five.

Then, from the gloom of the forest, a huge, hairy beast bounded in on them. A wolf, or were-wolf, with gleaming fangs and slathering tongue, eyes like pin-coals in the dark. The beast lunged at the nearest sleeping bag and pawed the man's face there. The man, wakened suddenly, gave a half-choked cry of terror. The wolf fangs were within an inch of his startled eyes and the beast's curling red tongue raked his cheek.

Panic all but paralyzed the man. Then he was aware that the beast had left him and was repeating the operation at the next bag. From bag to bag the hairy shape bounded, pawing faces, and in a few seconds the entire camp was wide awake. Five men, shocked breathless, squirmed out of their bags. The sixth man, Ed Stites, was the packer who had trailed them up here yesterday. Stites relaxed in his bag and drawled something in a placating voice. The first man out of his bag was Taggart, and Taggart rushed to the duffel sack to get a gun.

But the beast was gone now. It had raced away uptrail.

"It's only Mike," Ed Stites said. "I ought t've told you. But I plumb forgot. He does it every mornin'."

"It was a wolf!" Taggart shivered, standing there in socks and underwear with a .38 gun in hand. "A killer wolf! I saw him."

"I ought t've warned you," Ed Stites muttered contritely, crawling out of his bag.

Taggart kept pointing his pistol toward the spot where the beast had disappeared. The gun gave him confidence, and a pitch of anger replaced his panic. "If he comes back, I'll blow his head off."

"Keep your shirt on, mister," Ed Stites advised, holding a match to firewood he had made ready before turning in. "Mike's all right. He won't hurt nobody."

"You're telling me?" Taggart fumed. "I know

a wolf when I see one. He clawed my face. Tried to slash my throat."

Abe Goddard, a stocky banker with a close-cropped roan mustache, agreed hoarsely. "If I'd had a weak heart, I'd be dead by now." His teeth chattered as he pulled on pants by the fire.

"But the next time," Ed Stites assured them, "it won't bother you none. Because I'm goin' to tell you about Mike right now."

**W**HEN the fire blazed high they squatted around it and Ed told them about Mike.

"Seems," he said, "there was a sourdough miner up Alaska way. This gent had a Husky dog, a female. Said Husky female runs loose in the wilds one season and gets mated to a wolf. When the Husky feels her pups comin' she goes back to the miner's cabin and has 'em. The miner can't afford to feed a whole litter of pups so he begins givin' 'em away. He gives one to an outfit of soldiers camped not far off. The G.I.'s make a pet out of this pup and name him Mike."

"Half-wolf, eh?" Arnold Barr muttered. His face relaxed and he pulled out a pipe. Composure came gradually to all the others except Taggart. Resentment still flushed Taggart's thin, dark face. His gun was still alert to deal with the gaunt disturber of his sleep—dog, wolf or devil—should it return to camp.

"Mike," the packer resumed, "grewed up with this outfit of soldiers. Ski-troops, maybe they was; I dunno. The captain objected at first, said it was agin all rules of security—the dog might bark sometime when they was in enemy territory. But the boys promised to teach Mike not to bark in bivouac, and they did. They taught him a lot of

things. One of 'em was to wake 'em up at reveille. You dassent blow a bugle in a war zone those days—it could give away yer position. So Mike got to be the reveille bugle of that outfit. Come five-thirty every mornin', he'd go rompin' down that line o' sleeping bags, pawin' and lickin' faces. As each man woke up he'd give Mike a pat and pull his ears—and did Mike like it! He was accurate too. You could set yer watch by the time he'd begin pawin' them bags."

Hank Biglow, the fat man of the party, gave a chuckle. "And so he thought we needed wakin' up, too! Gee, fellahs, we ought to feel complimented. Him takin' us office softies for soldiers!"

Barr, the lawyer, and Goddard, the banker, agreed amiably. Barr's junior partner, Bill Wingate, was the most delighted of them all. Bill had a dog of his own down in Sierra City.

Taggart alone didn't melt. "Damned if I'll have any wolf," he blurted, "sticking his snout in my face. He tries it again, I'll let him have it."

"How come," Biglow asked Stites, "we find Mike up here in the High Sierras?"

"When the war ended," the packer explained, "some one G.I. had to take Mike fer his own. So a soldier named McGurk brought him home. In peace times, McGurk's a forest ranger. His summer station is just a half-mile down the lake from here."

**B**ARR gave an approving nod. "I imagine this high, cold country, with snow in sight all around, makes Mike feel right at home."

"Reckon it does," Ed grinned. "Reckon it brings back his old thoughts and habits. So he roams around and finds a party of campers here at Lower Lake, and another at Upper Lake. Always a party at each lake in the summertime. Fast as I pack one party out, I pack another in. (Turn to page 74)

Illustrated by Clarence Tillenius



The female husky ran loose with the wolves for a season.



ONCE in awhile someone expresses a longing for "the good old days." These fleeting moments come, however, when memory recalls an isolated incident, a recollection of a joyous occasion, or a neighborly kindness. Pioneer settlements were small communities, where people were thrown on their own resources and where the best in human nature was often brought out and long remembered.

True, there was romance in the early days of western Canada. First came the explorers, then the venturesome fur traders, nearly always accompanied by the missionaries. Then followed the hardy pioneers of the range, the mounties in their scarlet jackets, and a few early settlers impatient of crowded centres and eager to break land never touched by the plow. With the coming of the railroad the slow, steady infiltration of the great open spaces occurred, paving the way for the final great rush of newcomers from all lands which marked the first decade of this century.

There are, however, thousands of the hardy pioneers of those days who are glad that Time's river, once crossed, need not be crossed again. They remember the privations, the struggles, the difficulties and the penury of those early days. They remember that the nearest town was often many long miles distant; that doctors were not available at any price; that there were no telephones, or other means of communication; and that the railroad and telegraph wires were sometimes as much as a 100 miles away. They were not good days to live over again.

In the settlement of the last Great West, progress overlapped itself. Great areas of land were opened for settlement, some of which later had to be abandoned. Hardy individuals, at great cost of labor and money, sometimes transported livestock to far places, where there was no hope of a market for years to come. Creameries were established far in advance of the growth of real dairying. In 1879 the first irrigation ditch was constructed south of Calgary, long before crops were grown to any extent. All these were signs that people of vision were once there—intrepid pioneers of great courage and resolution.

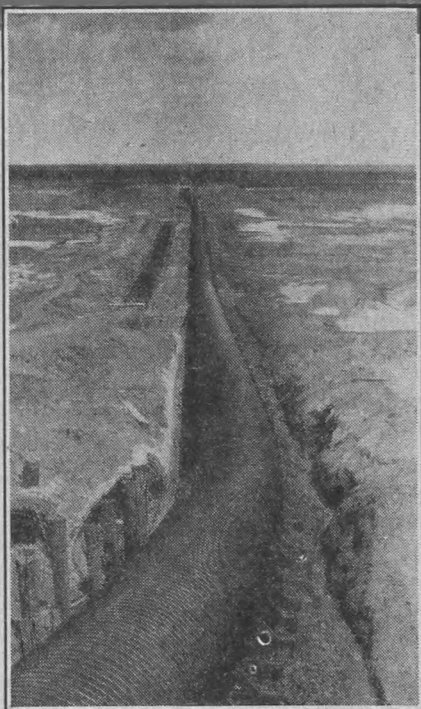
Southern Alberta today is a heartening scene of diverse agricultural development, under the beneficent influence of irrigation water. Nestled in the lee of the great Rocky Mountains and yet subjected to the same influences which create dry, barren lands, needing only water to make them fertile, Alberta was a promising field for irrigation development. Schemes already started have now a total irrigable acreage of close to a million acres, and within the province of Alberta a further million acres of land is irrigable.

TAKE, for example, The Little Empire, that irregularly shaped area in central southern Alberta, comprising nearly 1,500,000 acres, lying between Red Deer River in the north, the Bow River on the south, range 19 west of the 4th meridian

# The Little Empire

by H. S. FRY

*The story of independence involving co-operative management of more than a million acres in Alberta's Eastern Irrigation District.*



*The siphon bearing irrigation water over Antelope Creek.*

on the west, and range 10 on the east. This is the area through which runs the main line of the C.P.R. from Medicine Hat to Calgary. At the western end is Bassano, with the town of Brooks approximately in the centre of the tract, which is officially known as the Eastern Irrigation District. In it are 170,000 acres under irrigation, considerably over a million acres of

grazing land, and an additional 70,000 acres of irrigable land. The claim is that it is the largest project of its type in Canada, and the largest individual irrigation area under one dam in North America.

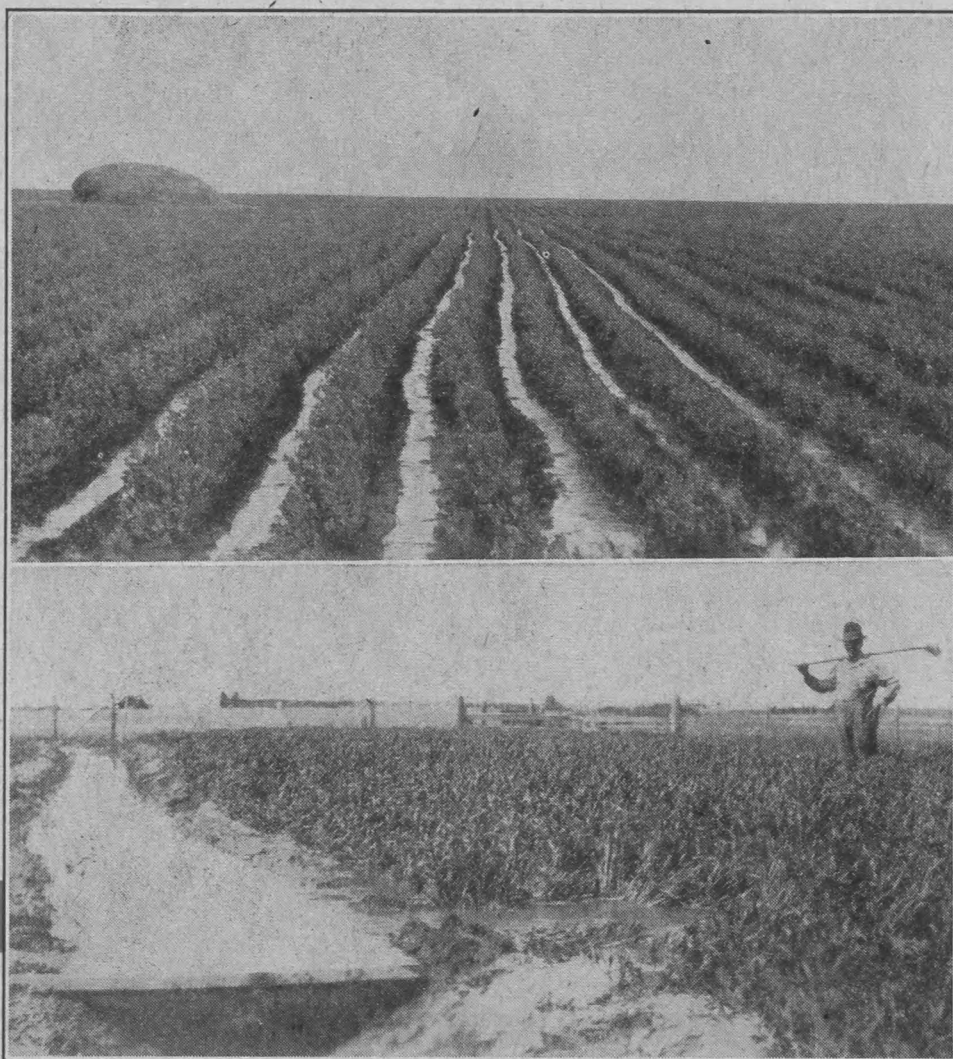
Water from the Bow River enters The Little Empire at Bassano, where a dam 7,900 feet in length (720 feet is concrete), 60 feet high and delivering 2,600 cubic second feet through its main canal, was erected in 1911-1914 at a cost of \$1,700,000. The entire area of irrigated land is served by 10 main canals and a number of large reservoirs of which the biggest is Lake Newell, 10.5 miles in length by 4.2 miles wide and having a maximum depth of 58 feet, an area of 15,000 acres and able to store 197,000 acre-feet of water at elevation 2,481. At Brooks there is an aqueduct comprising two miles

is entirely owned and operated by its farmers and water users, and is administered on their behalf by a board of trustees. It is a complete, proven, operating project, distributing annually (1947) enough water to its owners and water users to cover 467,598 acres of land one foot deep.

BACK of all this achievement and much more than has been told, lies a human interest story seldom equalled in the annals of this country. To tell it fully would require a full-sized book and much research and investigation. It would begin with the building of the Canadian Pacific Railway across the prairies, and the granting by the Dominion Government of millions of acres of land along both sides of the right-of-way, to the Company; and would include the far-sighted decision of the C.P.R. to develop the irrigation possibilities of southern Alberta by tapping the waters flowing eastward from the Rockies across the prairies. In it would be told how the railroad established experimental farms, engaged engineers and agricultural scientists, not only to build the essential dams, flumes, canals and other irrigation structures, but to study the types of crops and livestock suitable to such an area. It would tell of the large scale efforts of the Company to colonize the territory and of the many millions of dollars invested in development work, in order that there might eventually be a land filled with people whose products and requirements would develop freight and passenger traffic.

If this were all that was revealed, however, the story would be less than half told. Work was started about 1911 and three irrigation projects were involved, eastern, central and western. By 1914 the Company was able to start selling some land at Gem in the northern part of the Eastern district. World War I, beginning in August, 1914, pretty well stopped colonization efforts. In 1915, all of what was called the Bow Slope was reserved, the southern part for Scandinavian organizations. About 15 families went into Duchess in 1916-17, mostly from the U.S. The odd one came in in 1917 and 1918. By 1919 and 1920 they were coming in fast. Patricia and Rosemary were settled, Tilley was settled with returned soldiers on 40-acre lots. One of the earliest purchasers—even before World War I—was the wealthy Duke of Sutherland, who for \$40 per acre purchased 5,000 acres of the best land in the Eastern district lying east of Brooks. He brought out English and Scotch settlers, built houses

(Turn to page 59)



*Above: Peas for the cannery is a popular crop at Brooks.*

*Below: A barley field about to receive a heavy inundation.*





**I**N Calgary some time ago, I met the man who farms in a bigger way than anybody else north of the Arctic Circle. He manages six thousand head of livestock divided into two herds. The main herd containing about four thousand animals is located about 60 miles east and a little north of Aklavik, the Canadian metropolis of the Arctic Circle, and the other herd of about two thousand animals is located about 250 air miles distant from Aklavik.

He may, and probably does, operate the biggest herd of livestock in Canada north of Calgary. Though his methods more nearly approximate those of the large cattle ranches of southern Alberta, it is no doubt understandable that in a country where the frost never goes out of the ground from one year's end to the other and the temperature in mid-July may be above 80 degrees Fahrenheit, livestock management is quite a different proposition. For one thing he doesn't have to worry about fences, although at round-up time large corrals are convenient and even necessary. Moreover, being the only white man connected with the project, the labor employed is almost entirely Eskimo.

The man himself is E. W. Hogan, Superintendent of the Dominion Government Reindeer Station at Aklavik. He first went "down north" in 1936, the year after completion of the famous five-year drive of 3,000 reindeer, which were conducted on their long tour from Alaska to the Mackenzie Delta. Mr. Hogan was outside for a number of years during the war, managing the farm at the War Research Station, Suffolk, Alberta, but went back again when the war was over.

He is a bachelor, middle-aged and manages to carry a merry twinkle in his eye. I asked him why he chose to live so far away from what we call civilization.

"Well," he said, "one reason, of course, was to make a living. Then, in addition to that, there are no cares in particular, no taxes or cosmetics to worry about, and clothes are not a serious problem. By and large, the climate is more healthful, and the inhabitants are not subject to the same pressures and intensities as in large cities. There are no parking rules, or clanging street cars or rushing automobiles to worry about; and besides all this you get a lot more time to think. The people down north do think—for example, about what fools men are to believe they can alter time by putting the clock ahead an hour. They also read in a way they would not think of doing if they were outside, busily engaged in doing a lot more inconsequential things.

"The winter is really better than summer, prima-

## Arctic Farmer



*E. W. Hogan, manages 6,000 reindeer at Aklavik.*

by D. W. NASH

rily because you can go anywhere you like. In the summer, travel is by water only, because the frost comes out of the ground just enough to make the surface of the tundra unsafe and insect pests make travel uncomfortable."

**A**KLAVIK was established as a small fur-trading post in 1912. In 1923 the Mounties moved their station to Aklavik from Herschel Island, about 150 miles to the northwest. Soon the Hudson's Bay Company made it their centre, largely because of a better supply of fuel and timber.

The northern metropolis is not yet very large. In fact, the total population is about 350. The town is located approximately at the timberline in the midst of the great Mackenzie Delta and, because of this fact, is approximately the meeting place for the Eskimo and the northern Indian. The Eskimo does not, as a rule, live above (south) of timber, while the Indian, as a rule, doesn't live below (north) of timber. Strangely enough perhaps, there are no Eskimos in Aklavik itself, although the Eskimo population of the district in 1944 was 377, while the Indians numbered 213 and white folk about 170.

Still, Aklavik must be quite a town. It has two boarding schools and hospitals. The schools house 90 pupils each and are operated by the Roman



Catholic and Anglican Missions. There are about 35 beds in each hospital and, of course, each has a staff of trained personnel. There are six Mounties, three stores, the Hudson's Bay Company and two others; a radio station, CHAK, the "Voice of the Arctic;" a hotel and restaurant; and medical officers and an administrative officer, J. T. Harvey, whose territory extends for hundreds of miles.

Of course, the country has some disadvantages. It is a little slow, so much so that when it is five o'clock in Winnipeg for instance, it is only two o'clock in Aklavik. This may have something to do with the fact that they sometimes get upset for sleep, because they can't always tell whether it is time to get up or go to bed. On March 21, for example, there are 12 hours of sunlight, and from May to July 25 no darkness. By now, presumably, the sun will be putting in a full day's work, enabling Mr. Hogan and his

6,000 reindeer to live normal lives.

**T**HE Eskimo seems to be an individual quite beyond our understanding. Over hundreds of years he has adjusted himself to his surroundings and has never had occasion apparently to impose on himself and his neighbors any restrictions which accompany what we call "civilization." According to Mr. Hogan, the Eskimo has no understanding of the meaning of the extreme penalty for crime. If he is kept in custody until he is brought to trial, he enjoys it, because he eats better than when he is at home. Sometimes the Mounties must live with a prisoner for several months; and it doesn't seem

reasonable to the Eskimo that the Mounties should treat him so well for such a long time and then hang him afterwards.

The Eskimo seems to take no thought of the morrow. He occasionally makes big money trapping and hunting, but it doesn't last long.

There is the story of one skilful hunter, who was away for two years and came back with furs valued at \$70,000. The following year he had nothing. Another man won \$12,000 playing poker. He flew to Fairbanks, Alaska, and to Vancouver, Calgary and Edmonton to play the races, and chartered a plane back to Aklavik, which cost him \$1,000. The next year he was hard up.

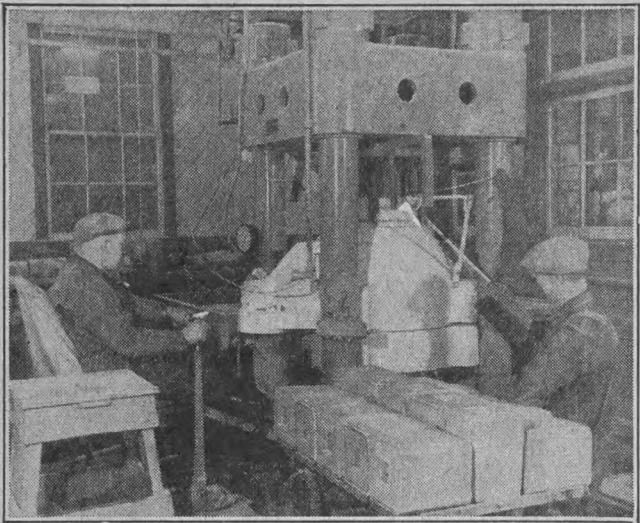
(Turn to page 34)

**Production of meat in the Arctic is different. E. W. Hogan's herds range over vast areas.**

*Below: Eskimo herder bull-dogging a yearling reindeer.*







A 500-ton hydraulic press at Neepawa compresses salt into 50-lb. blocks for farm use.

# SALT

## In Abundance

By PHILIP A. NOVIKOFF

**D**EEP in the interior of Central Africa a man with a ten-pound bag of salt is wealthy. With it he can buy several wives, a herd of cattle, the entire carcass of an elephant and still have enough left to sprinkle on his meat.

But Central Africa is salt-poor. A land deficient in any vital commodity will pay plenty for it. In Canada, on the other hand, a ten-pound bag of salt won't buy a decent meal. For salt is one of the cheapest foods we have. Cheap—because there's a great abundance of it. So much, in fact, that we could supply all of humanity, humanity's livestock and industries with salt for tens of thousands of years. That's a lot of salt.

To the farmer salt means many things: Appetizing fare on his table; succulent smoked meats; tasty canned foods; healthier livestock; safe roads when he motors to town in icy weather.

These are only a few of the apparent benefits. Salt also plays an important though lesser known role in the manufacture of clothing, leather, the metal used in farm implements, crockery, soap. It was a powerful force behind the establishment of many of the country's major industries.

But at one time Canadians had none of their own salt. It was imported from France and England and sold at exorbitant prices. Later, it was brought in from the United States.

While citizens of Ontario like to believe their province pioneered in the commercial production of salt, this is not the case. Moldy government records reveal that Manitoba was the first province to go into the salt business.

About 1820 a settler named James Monkman discovered several salt springs bubbling out of the earth on Red Deer Peninsula on the southern shores of Lake Winnipegosis. Pitching camp nearby, he decided to establish a salt works on the spot.

His evaporating furnace was quite primitive. On two rough stone walls 20 inches apart he placed an iron troughlike kettle five feet long, two feet wide and one foot deep. At one end a low chimney

was built to provide a draft and take care of smoke.

With this crude equipment Monkman struggled for several years to provide salt to the increasing colony of settlers concentrating in the Red River Valley. He established branch plants at Swan River and Duck River. When he died his sons carried on.

In 1858 the Monkman Salt Works were visited by the Assiniboine and Saskatchewan Exploration Expedition from Toronto. Prof. H. Y. Hind, leader of the expedition, later issued a detailed report on his findings. He recorded that the Monkmans were manufacturing salt at a profit at Lake Winnipegosis and Swan River. Most of their production was being purchased by the Hudson's Bay Company.

Describing the early salt-making process, Prof. Hind wrote:

"When a spring is found, a well five feet broad and five feet deep is excavated. Near it an evaporating furnace is erected. The brine from the well is ladled into the kettles and the salt scooped out as it forms. After draining for a short time it is packed in birch bark 'roggins' for transportation to Red River where it commands 12 shillings sterling a bushel, or 100-weight of flour, or a corresponding quantity of fish, pemmican or buffalo meat, according to circumstances.

"The brine is very strong. From one kettle two bushels of salt can be made in one day in dry weather. There are nine kettles at the works, seven being in constant use in summer months—"

**I**N 1874 a geological survey party found the Winnipegosis works still active, with a Mr. McKay in sole charge. He was producing 500 bushels a year, less than half the amount manufactured in previous years. Fifteen years later another survey party found operations abandoned although wandering Indians were evaporating some for their own use.

The death of James Monkman's salt venture is understandable. By that time salt was being made in Ontario and Michigan. The twin fingers of the railway had probed through to Manitoba from the east. Eastern salt was much superior and considerably cheaper even when hauled by rail to the western province. Progress had shoved the early Manitoba industry into obscurity.

A mad scramble for oil in western Ontario was directly responsible for the modern development of the salt industry in Canada. Several strikes had been made further south. An oil company was organized by Samuel Platt for drilling in Goderich. When his drill had penetrated 686 feet without finding oil his shareholders withdrew their backing.

Spurred on by a \$1,000 bonus offered by the county council and \$500 by the town if he reached 1,000 feet down, Platt carried on at his own expense. At 964 feet he struck a bed of rock salt through which he bored for 60 feet. He had completed the required 1,000 feet and won the \$1,500 bonus.

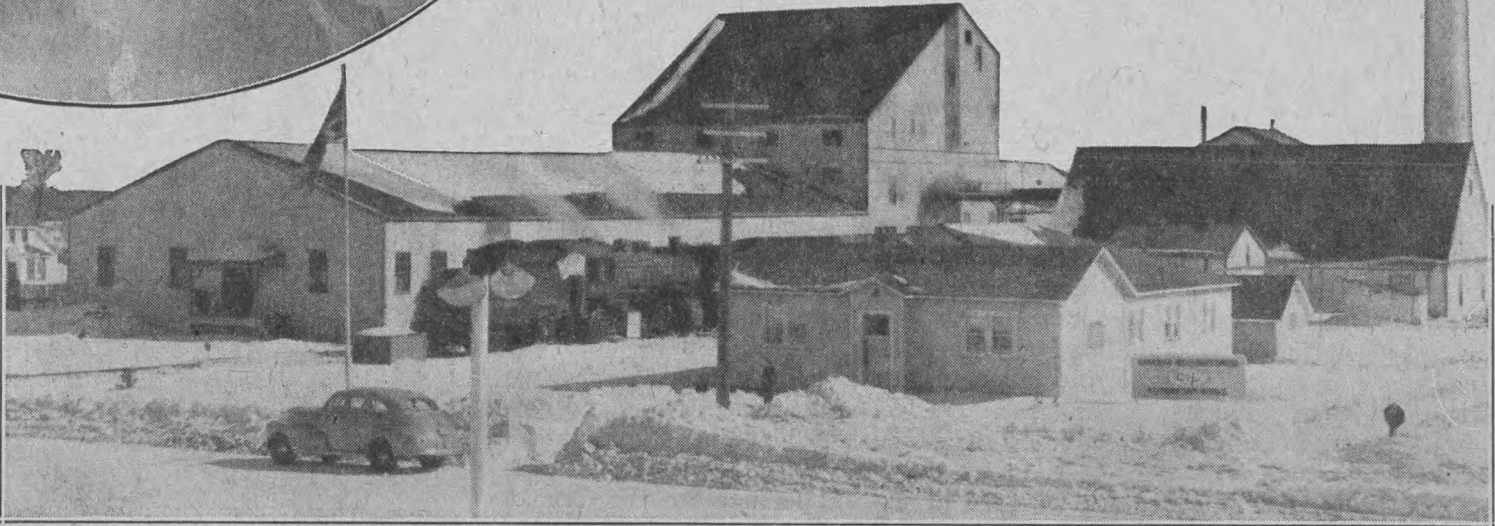
Platt's find was so sensational the shareholders who had deserted him begged to climb back on the bandwagon. He let them and incorporated the organization as the Goderich Petroleum Company. Pumping of the brine began in September, 1866. (Turn to page 44)



Left: A mountain of industrial salt for meat packing, manufacture of caustic soda and chlorine, and ice control on slippery streets.

Below: The oldest of the salt plants now producing in western Canada at Neepawa, Man.

The Canadian economy is blessed with an inexhaustible supply of a substance that is constantly growing in importance as technology advances.





# A NEW APPRAISAL

"CAN I get my cows bred artificially?" I have been asked this question several times since artificial insemination work was started in Alberta in the fall of 1943. At that time it was recognized that the conditions of prairie agriculture were not particularly well suited to an artificial breeding program, but information was needed to determine its practical value in such a farming area.

The question of the economy of such a venture is always extremely important and with artificial insemination, as with rural electrification and other community projects, the economic possibilities are largely determined by natural conditions. Some of the leading factors determining the economic feasibility of A. I. are: Volume and concentration of cow population, number of breeds involved, type of roads in the area served, climate, and the rate of conception achieved. The prairie provinces are not very strong on the first four of these, and the fifth is dependent enough on the other four, that difficulty might also be expected from that source.

Reports from heavily populated areas of the Eastern United States then indicated that A.I. was being carried on without too much difficulty; and because of the tremendous theoretical possibilities A.I. presented, some of the reports may have been made with too much enthusiasm and optimism in view of the scientific and practical knowledge at hand. The rapid expansion in those areas also indicated considerable success, and may have been responsible for undue enthusiasm in areas that were not so well suited to this practice.

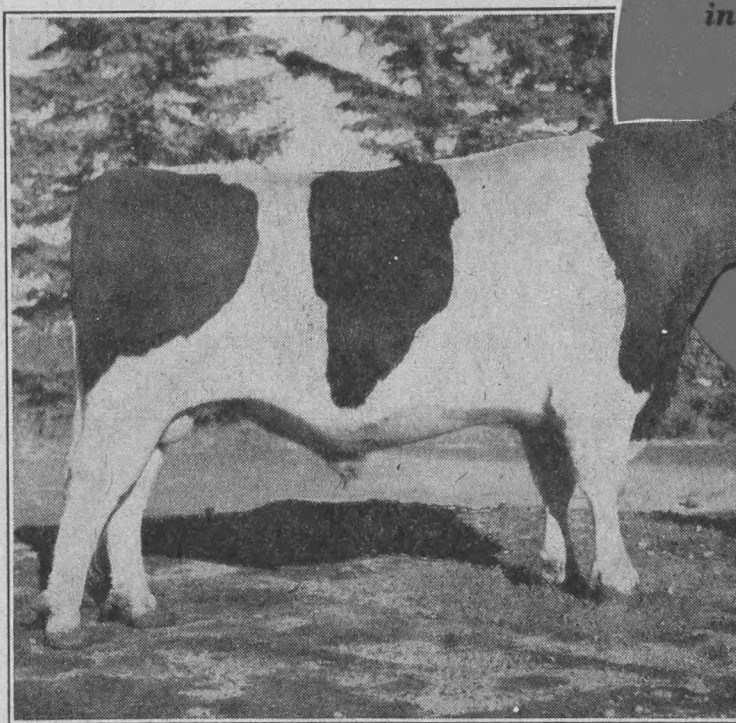
**B**EEF breeders were worried for fear this new fangled breeding scheme would put them out of business by doing away with the demand for bulls. Almost always listed as the first advantage of A. I. was the great number of cows that could be mated to one bull. This did not read well to the beef breeder, and without having enough facts concerning the limitations of A. I. he had reason to be concerned. Practically all reports of work done with A. I. were based on work done with dairy cattle, but this was not always pointed out.

The breeders of dairy bulls were also concerned to some extent because, after all, approximately half of their calves are bulls. In the first flush of publicity it appeared that the demand for these bulls might be seriously curtailed.

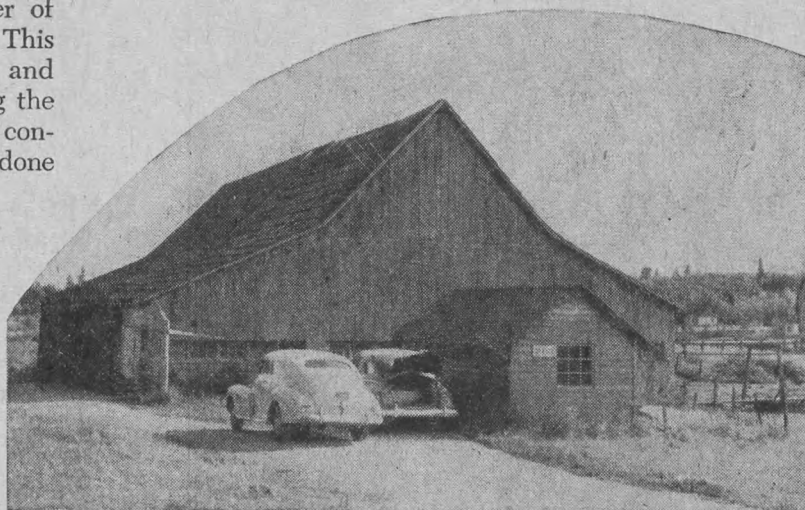
The small herd owner saw great possibilities in A. I. He immediately visualized the possibility of getting his cows bred to a better bull than he had used in the past and, best of all, doing away with the necessity of keeping a bull, or getting the use of the neighbor's bull. Because he had heard that there were men called "technicians" who did this work, he assumed that his own responsibility would be practically eliminated.

It was also fairly common at that time for reports on A. I. to indicate that conception rates were higher than those attained by natural breeding. A discussion of this one point could take up the space of this entire article, but it is my opinion that the average conception rate achieved by artificial breeding in all areas is not as high as the average conception rate reached in the prairie provinces by natural breeding. The tendency in artificial breeding is for greater variation from herd to herd, month to month, and year to year, than is the case with natural breeding.

**A**RTIFICIAL breeding work in Alberta has been carried on under a provincial government policy, administered by the livestock branch of the Department of Agriculture. It is centred at a laboratory set up in 1943 at the Olds School of Agriculture, from which



service has been supplied to the Alberta members of the Holstein-Friesian Association from bulls of their selection; and to a grade-herd "Breeding Club" in an area roughly 15 miles in radius, centred by the town of Olds. Actual breeding in registered Holstein herds was started in January, 1944, and since that time service has been supplied from three different bulls, namely, Hays Thirty-Nine Steps -132363-; Glenafton Rag Apple Architect -161294-; and, more recently, from Sovereign Masterpiece -198229-. While this program has the decided weakness of attempting to provide continuous service from a definite sire, as well as the difficulty of providing suitable technicians in some



Headquarters laboratory and bull barn, Fraser Valley artificial breeding association.

Class of artificially bred dairy heifers at Regina.



*The author's first-hand study of artificial insemination progress in several provinces and states leads him to conclusions applicable in western Canada.*

by  
**W. H. T. MEAD**

*Glenafton Rag Apple Architect -161294-, one of the Holstein sires in service at the Olds breeding centre.*

areas, it has been generally well accepted by the breeders as indicated by the number of herds participating each year since 1943, by the number of cows bred (shown in parentheses), as follows: 1944-16 (108); 1945-43 (247); 1946-58 (317); 1947-63 (407); and 1948-83 (365).

Under such a policy it is practically impossible to guarantee service at all times, particularly to herds that require individual semen shipments. For that reason, breeders have been discouraged from disposing of their herd bulls and depending entirely on artificial service. The policy was meant originally to provide service from better-than-average bulls to some of the better cows in different herds; and such a program must of necessity be confined to that plan, except for breeders very favorably located or operating with very small herds. Artificial service has also been supplied in the Holstein herd maintained at the School of Agriculture farm at Olds, and some shipments have been made to the School of Agriculture farm at Vermilion. Results in the Olds herd have been very good, while at Vermilion they have not been good. This would indicate the possibilities existing in rather large herds, where A. I. could be confined to one herd and all phases of the program kept under single management, without the problem of transporting semen. Inadequate results at Vermilion would indicate the possibility of providing satisfactory service to an entire herd from a definite sire, where 24 hours is used to transport semen.

**A**S for service provided for grade-herd owners in the breeding club at Olds, we have found that the conditions mentioned earlier have played an important part. Costs have been relatively high because of lack of volume. Interest has suffered along with the dairy business generally, because of high-priced grain, high-priced cows, and increased costs of dairy production. It has been relatively easy for farmers in this area to switch

from dairying to other farm practices. A certain percentage of members have been dissatisfied at some time or other with breeding results. While service has been supplied from Holstein and Short-horn bulls, the member using Holstein service has generally had the best results. We can, however, see no difference in the effectiveness of bulls as between the two breeds, and attribute this condition

mainly to management in the herds. The man using Holstein service is usually a little more specialized in his cattle enterprise and the

(Turn to page 28)



"JEFF," the Judge went on, "as you know, is Miss Carey's grandnephew, just as that young woman, Miss Martin, is her grand-niece. The old lady did not approve of Jefferson . . . thought him a waster . . . which is why she did not favor him in her will. He got her books, and sold them. To this man Kolker, Jeff was very angry over his treatment, not only because of the house, but he claimed that some of the books were missing."

"Were any missing?" Lem asked.

"No. None that he should have received. The library belonged to Miss Carey's father. Some of the books were first editions, and quite valuable. Kolker paid Jeff fourteen hundred dollars for the lot. Not long before her death Miss Carey gave me a list—my uncle unfolded the document he had brought from his study—"made when she was a young woman. Before her final illness, she checked

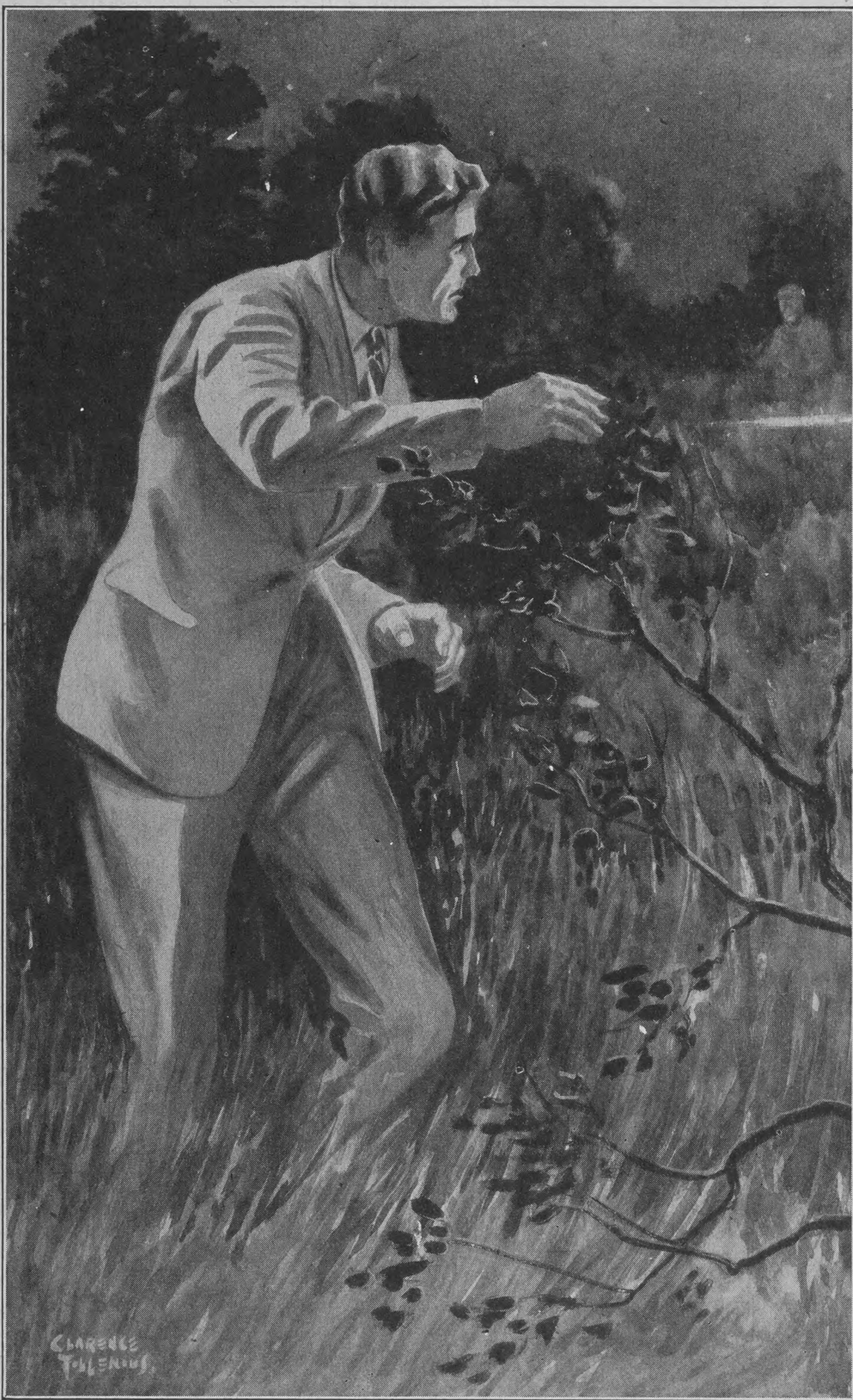
it with the books in the library, crossed off certain ones which, in the course of years, had disappeared. But, as I explained to young Carey, none of those so crossed off, even had they been available, would have belonged to him, since under the will he was to receive only the books actually in the library at the time of Miss Carey's death."

"Did Kolker see the list?" I asked.

"Oh yes. The books were checked against it when they were removed from the house. Naturally, one might assume that it accounts in some way for Kolker's and Jefferson's presence there last night, and yet I can't see how. They both had ample opportunity to examine the contents of the library on previous visits."

"Doesn't the search of Miss Carey's bedroom

Illustrated by Clarence Tillenius



indicate," I suggested, "that she might have taken something up there?"

"If she did," Lem said, "I reckon it wasn't a book."

"Why not?"

"Because whoever went through that room was looking for something smaller. They even smashed picture frames. You can't hide no books in picture frames." Lem Purnell got up. "I better have a talk with Jeff Carey."

"He must be questioned, certainly," The Judge murmured, pressing his slim fingertips together. "Perhaps, since I secured his prints by inviting him to have a drink . . . rather a shabby trick, I fear . . . it would be better for me to talk to him. He knows about the murder?"

"I told him, this afternoon," I said.

"Reckon you didn't have to tell him," Matt Gordy piped up. "With his fingerprints on that candlestick and the cupboard door, we know he was there."

"But not necessarily," smiled my uncle, "at the time the murder was committed. At present the young man is out driving with Miss Martin. I will question him as soon as he returns. And let you know what he says tomorrow morning, when I come out to the house to see Miss Carey's bedroom. Shall we say at ten o'clock?"

"All right with me, Judge," Lem pointed to the table. "Matt will have to take this bottle."

"But not its contents," my uncle laughed. He went into the dining-room, came back with a cut-glass decanter. "Pour it in here. And have a drink, both of you, before you go."

When they had left, the Judge took up the list of Miss Carey's books. The foolscap pages were tied together with tape.

"Do you see anything peculiar about this, Garry?" he said.

I examined the document carefully.

"No," I replied. "Do you?"

"Yes. I should have noticed it when Jefferson gave the paper back to me. One of the pages is missing. The last page. Someone has torn it off. You can see bits of the edge, still in place under the tape."

"Kolker, perhaps," I said. "Or . . . or Jeff."

"Perhaps," the Judge said. For a long time he sat silent.

Then we heard a car drive into the yard, and laughter, as Miss Martin and Jeff Carey ran up the front steps.

SHOCKS such as the one Miss Martin had received are apt to kick back at you a few hours later; the girl was really tired, now. My uncle sent her off to bed, invited Jeff to have a nightcap.

"I have an apology to make to you, Jefferson," he said. "When I asked you to have a drink, earlier in the evening, I am afraid I was guilty of a gross breach of hospitality."

"How so, Judge?" Jeff filled his glass.

"Because I used the invitation as a means of securing your fingerprints."

There is no doubt that Jeff Carey was angry; his lean, handsome face turned a sudden crimson.

"What did you want with my fingerprints, Judge Tyson?" he asked harshly.

My uncle sank into his big, shabby chair; he seemed very small and inoffensive.

"Jefferson," he said, "I have always been a good friend of the Carey family. I am trying to be a friend of yours, now. I wanted your fingerprints in order to find out, before you got into trouble, what you were doing at Sandy Point last night."

My uncle's voice was very gentle; there was an almost plaintive note in it, but Jeff continued to scowl.

*As I forced my way through the shrubbery, a red flame cut the darkness and a bullet clipped the leaves at my elbow.*

*A clue to the murder of the antique dealer found in a missing page of a list of books left to Jeff Carey by his eccentric Aunt.*



"What makes you think I was there?"

The Judge's eyes became bleak.

"I know you were there, Jefferson," he said tartly, "and so do the police. It is not at all impossible that you may shortly be arrested on a charge of murder. So for your own sake I advise you to tell me just what occurred."

I SAW that Jeff was surprised. The Judge had said nothing, I noticed, about the candlestick and the prints on the closet door. When a man knows the evidence against him it is easier to tell a plausible story. Jeff stalked to the desk.

"Murder?" he exclaimed. "I didn't even know anybody had been murdered. All I've heard, from Garry, is that a man was found dead out there!"

"And you don't know who it was?" my uncle asked.

"I do not."

"It was Kolker."

"Kolker? You mean that antique dealer?" Jeff tried hard to register surprise, but his poker face was like a mask that has slipped.

"Yes." The Judge, too, I saw, felt that Carey was bluffing. "Don't you think it a waste of time to beat about the bush? There is serious evidence against you."

Jeff slumped into a chair.

"What do you want to know?" he asked defiantly.

"Everything . . . so far as you and this fellow Kolker are concerned."

"All right! I sold him the books. When I gave him the list to check up with he said I'd been gypped. I asked you about it!"

"That is correct. And I told you none of the books your aunt had crossed off belonged to you, under the will."

"I understand, Jefferson. You wanted to secure this valuable object, even if you had to go out to Sandy Point and ransack the house yourself. And what did Kolker say when you told him that?"

"He said I wouldn't know the thing if I saw it . . . that I'd already had a description of it under my nose."

"Ah!" My uncle took the foolscap list from his desk. "Look this over, and tell me if you notice anything unusual about it."

Jeff glanced through the catalog, shook his head.

"You have no recollection, then, of another page?"

"No." Jeff fingered the list awkwardly. "I left everything to Kolker."

"He may have torn it off," said the Judge.

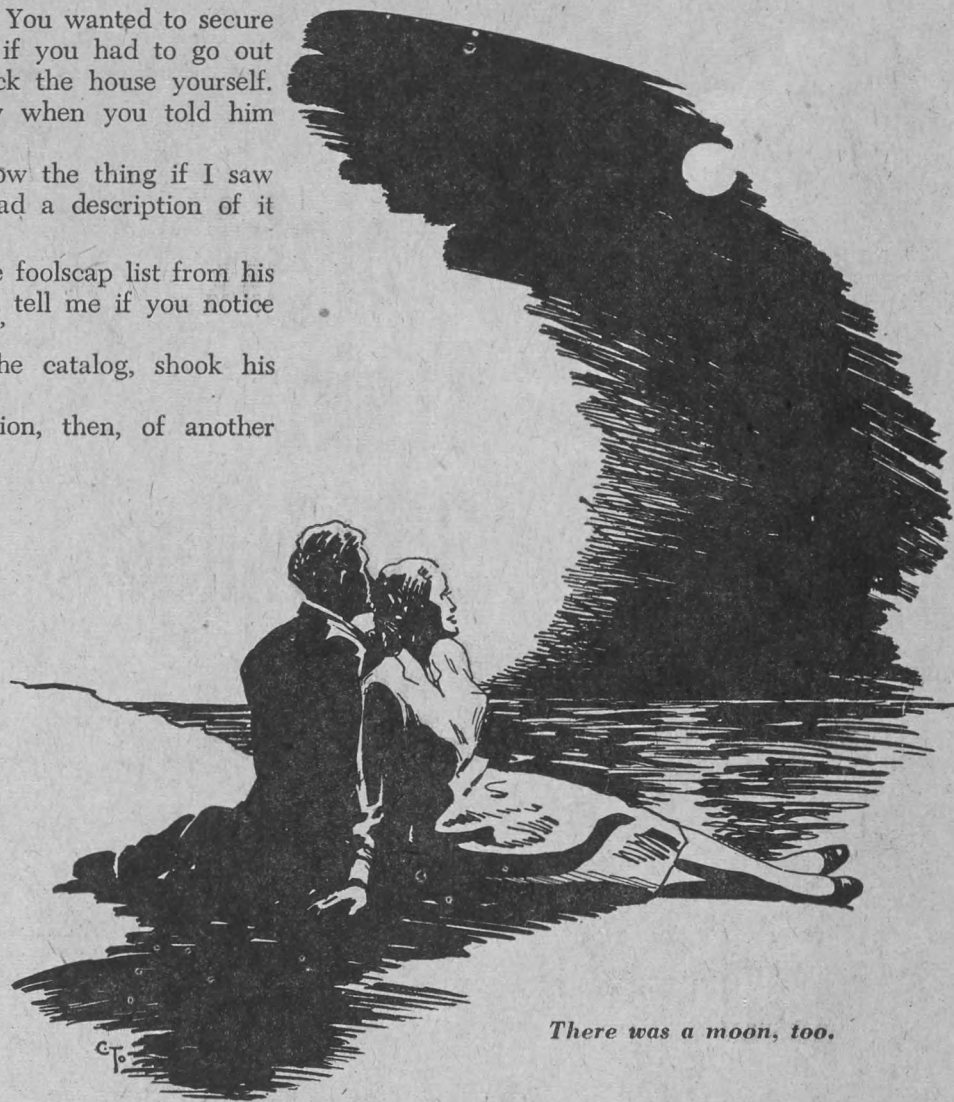
"Very likely, the blasted little crook. I accused him of trying to double-cross me. We had a row!"

"Before witnesses?" My uncle's eyebrows went up.

"One! Kolker yelled, when I threatened to punch him, and a bell-hop came in."

The Judge's eyes grew even sterner.

"Have you got that



*There was a moon, too.*

# THE Twisted Face

by

FREDERIC ARNOLD KUMMER

## Part II—Conclusion.

"Right! I explained things to Kolker before he left town. Yesterday I got a letter from him saying he was coming back, asking me to meet him at the hotel, around three o'clock. I did. He again said I hadn't got all that was coming to me, and offered to put up a thousand dollars if I'd let him search the house!"

"A thousand dollars? Just for a search?" the Judge asked.

"Oh, no! I wasn't to get it unless he found what he was after."

"And what was that?"

"I don't know. He wouldn't tell me. So I refused."

"I see. And what next?"

"He kept raising the ante. Up to five thousand. I didn't agree, because I figured if there was anything out at Shady Point so valuable that he would pay me five thousand, it must be worth twice as much, at least. And I saw no reason to let him make a profit like that when all I had to do . . ." Jeff hesitated, frowning.

"When all you had to do," the Judge supplied pleasantly, "was to notify me, as executor of the estate, that I had overlooked something of great value belonging to Miss Martin."

"I hadn't met Miss Martin then!" Jeff spat out the words as though they burnt him. "All I knew was that Aunt Sarah had left everything to some dame in Europe, except a few moldy books."

on a drink. Then he offered, if I'd help him find this thing he was after, to take twenty-five per cent of what he got for it . . . give me seventy-five. I said I'd meet him at nine o'clock . . ."

"In the bartender's hearing, I suppose?"

"I suppose he heard us." Jeff was becoming more and more uneasy. "I didn't mention where we were going to meet."

"I see," the Judge said. "So you went out to Sandy Point?"

"Yes. Walked. I looked for his car . . . he'd driven down from Baltimore . . . When I didn't see it, I went inside. Used the key you let me have, Judge, at the time I sold the books." Jeff took the key from his pocket and laid it on the desk. "Should have returned it before."

"I'm sorry you didn't," my uncle said.

"Well . . . the house was pitch-dark, of course. I didn't know the electric current had been turned off. When I discovered it was, I hunted around for a candle. Remembered Aunt Sarah kept a pair, in brass sticks, on the mantelpiece."

"Just a moment, Jefferson. In your groping around, did you touch the door of the closet?"

"I don't know." Jeff seemed puzzled by the question. "As I was saying, I found the candle, lit it . . ."

"A fresh candle, I suppose," said the Judge. "One that had not been used?"

missing page. Jefferson?" he asked.

"Me? How would I get it?"

"Kolker's pockets had been searched."

"Look here!" Jeff got up. "Are you accusing me of his murder?"

"You were there . . . and so was Kolker." My uncle waved a delicate hand. "Sit down, Jefferson, and get on with it."

Jeff Carey sank into a chair. His lips and his fingers were trembling.

"I left Kolker," he said, "and went down to the lobby. The rat followed me, insisted

"I guess so." This seemed to puzzle Jeff Carey even more. "To tell you the truth, I don't remember. Anyway I figured while I was waiting for Kolker I might as well look over the books he'd left behind. I thought maybe he'd missed something. So I put the candle on the floor, dragged the books out, sat there for half an hour going through them."

"Then you didn't go upstairs?" My uncle interrupted.

"I did not! Just sat there on the floor until quarter to ten, waiting for Kolker to show up. When he didn't, I went home."

"First putting out the candle?"

"Sure. I blew it out."

"And locking the door when you left?"

"Of course. Why?"

THE Judge sighted across the tips of his fingers at an imaginary point on the wall.

"I was just wondering," he said, "why the candle had burnt out in its socket. And how Kolker, without a key, managed to get into the house. So far as I can learn, no one broke in."

Jeff, thoroughly confused, splashed another drink into his glass.

"I don't know," he muttered.

"Did you make no further inquiries concerning Kolker?"

"Yes. I called up the hotel. Next morning. They said he had checked out the night before."

"And did you then go to Sandy Point?"

"No. Why should I?"

"It would have been natural. Certainly, after his eagerness to search for this object, whatever it was, his disappearance must have struck you as rather strange."

Jeff shook his head; there were both anger and fear, I thought, in his eyes.

"If you want to know what I really thought," he growled, "I'll tell you! I figured that rat had beat me to it! Had gone out to the house earlier and found what he was after. How he got in I didn't know . . . I figured then he'd probably smashed one of the windows!" Jeff got up, went to the door. "If that's all of the third degree, I'll be going!"

He stormed out, banging the study door.

"Have you forgotten," I said, when he had gone "that Lem found a car had been parked back of the house? With cigarette butts, showing lipstick, in the road?"

(Turn to page 93)



# A Freight Train 350 Miles Long...



REGINA

and  
You filled  
it with  
DOCKAGE!



WINNIPEG

Figures compiled by the Board of Grain Commissioners show that Western Canada farmers shipped a total of 68 million bushels of weed seeds to Fort William and Port Arthur in the past 10 years. Enough dockage to fill a freight train of box cars 350 miles long — the distance from Regina to Winnipeg!

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## Boss Johnson Takes The Offensive

*Undeterred by the effects of Britain's importing policy, the Premier of British Columbia plans for expansion.*

by CHAS. L. SHAW

THIS has been a winter that British Columbians will remember with a shudder for many, many years; and when their grandchildren decades from now complain of the cold they'll tolerantly smile and tell them they should have been around away back in 1948-49, for in that winter of unhappy memory there was really something to deplore.

There has been a little of almost everything but rain this winter and that, of course, is an astonishing reversal of form for a region that constantly takes with good humor jibes to the general effect that rain is as much a part of the scene as Vancouver's Lions Gate, Victoria's Mount Tolmie and Kelowna's Okanagan Lake.

By the time this is read, of course, the west coast may have had a deluge of rain, but at this writing there have been more than two solid months without rain; but plenty of snow and ice.

The hydro-electric apparatus that serves British Columbia's coastal area is designed and operated on the assumption that there is going to be an abundance of rain during the winter months and not more than a week or so of really cold weather. Consequently when there was no rain whatever—an unheard of thing for the area—the power system showed signs of failure. Industrial plants were ordered to curtail operation to save electricity; business offices closed early and householders were asked to do with as little lighting as possible. The B.C. Electric's fine new trolley buses, just introduced, were taken off the streets in favor of motor buses, all for the same reason.

But even with all these discomforts, British Columbians didn't feel so badly treated. Weather reports from all over the country seemed to make even drearier reading and there was this to be said in favor of the B.C. winter: the coastal cities had more sunshine in the winter months than they had had for years. Day after day of bright skies, but b-r-r-r was it cold?

Premier Byron I. Johnson did his best to cheer everyone with a program of almost unprecedented confidence and expansion and, judging from the response in most quarters, he succeeded. His announcement in the provincial legislature that his government planned to proceed with extension of the Pacific Great Eastern Railway to Prince George, build a highway from Vancouver to link up with the railway at Squamish, spend millions more on other highways, augment public power plants and encourage the aluminum, pulp and other industries to come into B.C., made old-timers recall the old, old days when the colorful Sir Richard McBride fired the imagination of the people with his bold expansion program.

PERHAPS not since the days of Sir Richard before World War I has British Columbia embarked on such a series of major undertakings as Premier Johnson announced in his policy speech to the provincial legislators, and for those who might be tempted to recall that Sir Richard bit off more

than the province could digest it should be pointed out that British Columbia, while still in many respects a frontier province, has matured, especially in an economic sense, since those days. It can afford big expenditures because it has the money and the wherewithal to earn more. As recently as the early 1930's British Columbia's economy was so badly strained that even such essential measures as forest protection had to be sacrificed. But after a succession of boom years British Columbia is able to take in its stride such things as a five-year spending program of \$90,000,000 over and above the regular budget appropriations.

Premier Johnson's announcement was a spectacular way of demonstrating the government's confidence, and only the cynical critics hinted that perhaps the prospect of a fairly early election was partly responsible. Apart from all political considerations, Premier Johnson is determined to show that expansion may be carried out for the general good without borrowing from the Socialist's book.

If he fails and Harold Winch's eager C.C.F. takes over, Premier Johnson and spokesmen for west coast industry are afraid that capital will stay away from B.C., and that projects such as the Aluminum Company's proposed \$300,000,000 plant on the west coast may not materialize.

BRITISH COLUMBIA producers of such commodities as lumber, fish and fruit have not entirely abandoned hope of selling some of their output to the United Kingdom even though the British government has adopted the attitude that owing to the dollar shortage there is no money available for such purchases.

Proposals have been made that the British Columbia government extend credit to Britain for the purchase of such goods, and there is also some hope that the Canadian government may be able to assist in some way.

Along the same line Premier Byron I. Johnson has suggested that when his government goes ahead with the proposed extension of the Pacific Great Eastern Railway to Prince George an arrangement be made with Britain for the purchase of required steel on the understanding that Britain would buy lumber from sawmills located on the route of the P.G.E. or elsewhere in the province to an equivalent value. Premier Johnson emphasizes that this is not a barter deal; it is simply a means of facilitating purchases by both countries to their mutual advantage. The point is that British Columbia would otherwise have to purchase the steel in the United States and Britain would probably have to buy the lumber from eastern Europe.

One of the advocates of a plan for extension of provincial credit to Britain for purchases in this market is Hon. H. H. Stevens, formerly Canadian minister of trade and commerce, who has already made representations to this effect.



# '49 Ford

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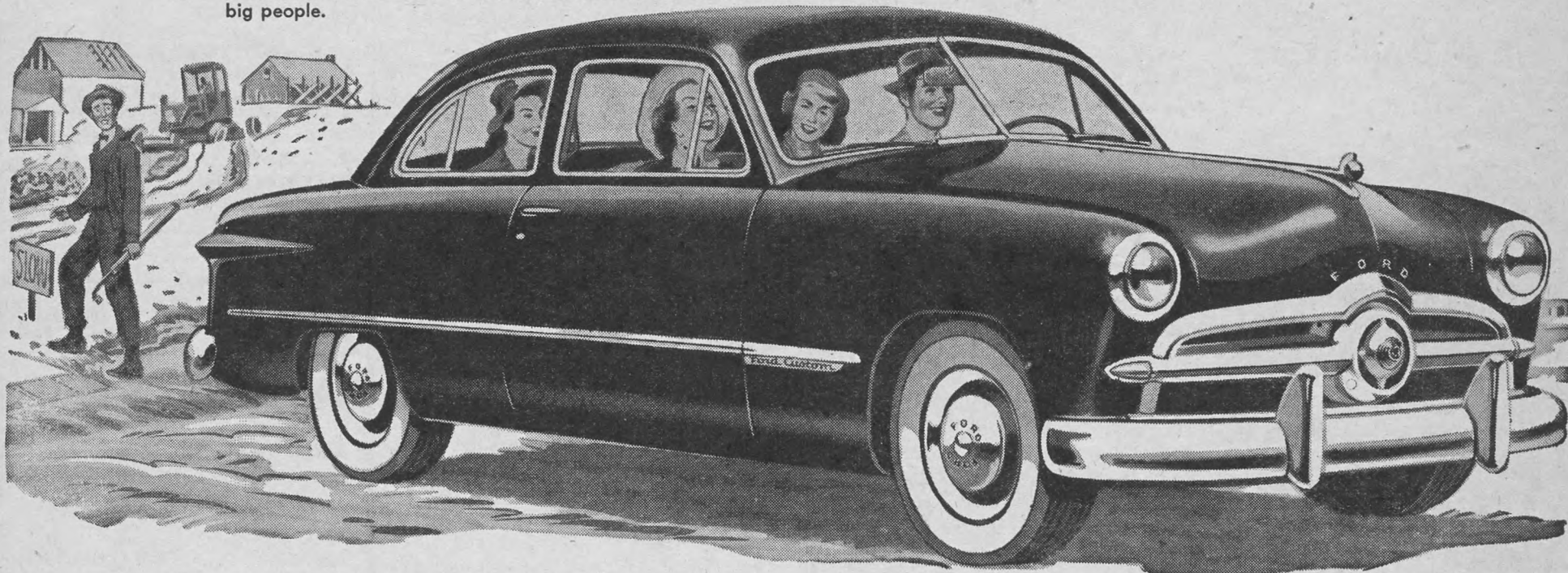
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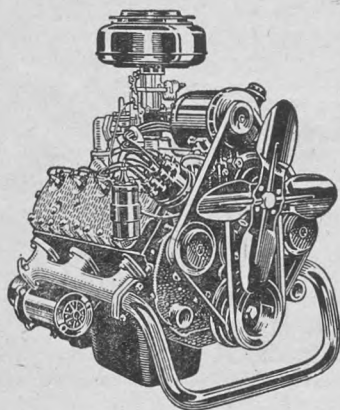
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Owners are hailing the '49 Ford's new big-car roadability... thrilling to swifter pick-up and response... made possible by the "Equa-Poise" Power you get from the new 100 hp. Ford V-8 Engine. New Finger-Tip Steering for sure control and effortless parking! Improved "Magic Action" Brakes—35% easier-acting—for extra safety!



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**100 Hp.  
V-8  
ENGINE**

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Everywhere you'll hear owners talking about that new, road-hugging Ford "feel"—so sure and steady, even in a cross wind. Because now you ride *between the wheels* in the low-cradled centre section of the new Ford's 59% stronger "Life-guard" Body.



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Drive a Ford  
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Stewart Arthur  
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Barley: (6 Row) Barley: (2 Row)  
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Plush Dakota  
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PRICES ON REQUEST

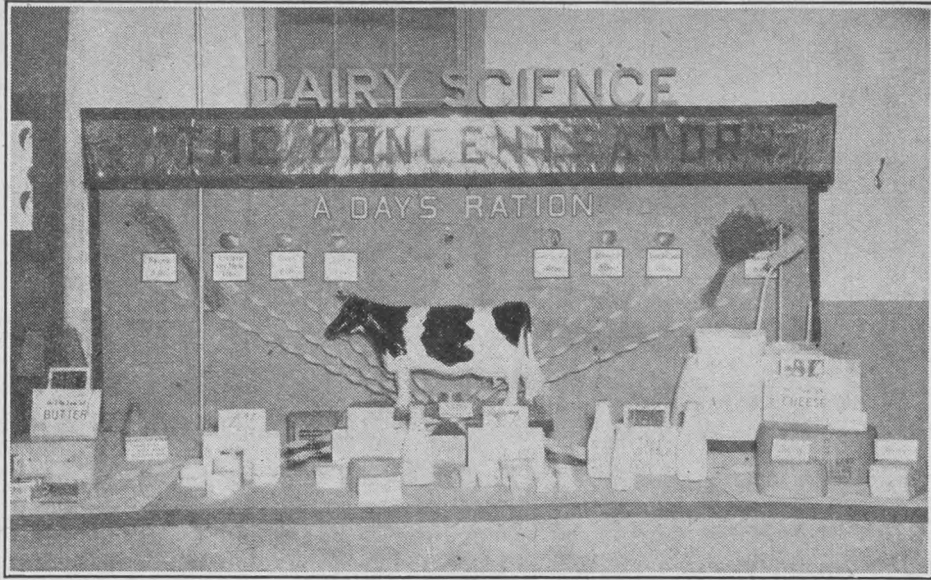
Red River Grain Co. Ltd.

Winnipeg, Manitoba

Canada West Grain Co. Ltd.

Edmonton, Alberta

News of Agriculture



Dairy students won first prize with this exhibit at the students' winter fair at the University of Manitoba. The splendid model of a Holstein-Friesian cow was made by John J. Richie, a fourth-year degree student from Winnipeg.

Canadian Grain Storage

GRAIN elevator storage capacity in Canada developed to a peak of 604,710,587 bushels in 1943 from a grand total of 18,329,352 bushels capacity in 1900. This increase in grain storage space was fairly gradual until 1940, reaching 100,000,000 bushels in 1910; 200,000,000 in 1917; 300,000,000 in 1927; 400,000,000 in 1930; and 500,000,000 in 1940.

With the occurrence of World War II and the piling up of surplus grain in Canada, a large number of temporary and special annexes were resorted to, with the result that in 1941 the storage capacity reached 601,191,319, or an increase of 177,000,000 bushels storage capacity since 1939. As the war neared its end and demand in war-ravaged countries began to be effective, much of the surplus grain was moved out and temporary and special annexes gradually reduced.

As at December 1, 1948, total licensed grain storage capacity amounted to 486,227,270 bushels, of which nearly 415,000,000 were in elevators proper and in permanent annexes. There were 21.5 million bushels of unlicensed elevator capacity. Not surprisingly, 83 per cent of the total licensed storage capacity was located west of Fort William and Port Arthur, and of this 151,459,400 bushels of licensed storage capacity was located in Saskatchewan.

Marketing Coarse Grains

THE long drawn out discussions between Canadian farm organizations interested in coarse grains marketing, the prairie provincial governments and the Dominion Government, were brought to a head on February 22 when representatives of the prairie governments and the Canadian Federation of Agriculture met a committee of the Dominion cabinet at Ottawa. Elsewhere in issue (page 49), the resolution endorsed by the farm organizations is given in full, and this was the basis of the request presented to the Dominion Cabinet. It emphasized the desire of the farm organizations to have coarse grains marketed by a producers board operating to sell the coarse grains of western Canada at the best available prices in both the domestic and the export markets.

The Dominion Government, a year ago, amended the Wheat Board Act to make it possible for the Board to handle coarse grains, but stipulated

that the prairie governments must pass complementary legislation. The government of Saskatchewan did so immediately, but the governments of Alberta and Manitoba held that such additional legislation was unnecessary. At this writing the decision of the Dominion government following the meeting on February 22 has not been announced, but it is understood that the Dominion will still insist on complementary legislation.

Raise The Initial Wheat Price

THE Rt. Hon. C. D. Howe, Minister of Trade and Commerce, announced in the House of Commons on February 24 that, retroactive to August 1, 1945, the initial price to be paid by the Canadian Wheat Board to wheat producers will be increased 20 cents per bushel basis No. 1 Northern Fort William, Port Arthur or Vancouver. This will raise the initial price from \$1.55 to \$1.75 per bushel and will apply to all wheat delivered to the Canadian Wheat Board between August 1, 1945 and July 31, 1950. It has been estimated that between August 1, 1945 and March 31, 1949 the Canadian Wheat Board will have received 1,070,000,000 bushels, which, at 20 cents per bushel, will mean retroactive payments to western producers amounting to \$214 million. A year ago, the initial price was raised from \$1.35 to \$1.55 per bushel, involving additional retroactive payments of approximately \$155 million.

The new price is effective on April 1 and the distribution of cheques covering the retroactive payments is expected to begin March 31 at the rate of approximately 40,000 cheques per day. It is hoped that many farmers will receive cheques prior to seeding, especially those living in areas harvesting short crops in 1947 or 1948.

Canada is operating a huge five-year wheat pool covering the period August 1, 1945 to July 31, 1950. The Wheat Board sells, as Class II wheat, all wheat disposed of to countries other than the United Kingdom and the Canadian domestic market. This Class II wheat is offered at open market prices and the Board fixes daily quotations on this wheat. For the first year of the British Wheat Agreement (1946-47), the simple average of these daily quotations amounted to \$2.44 per bushel. (This is not a weighted average based on the actual amounts of wheat sold at various

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prices from day to day.) For the next crop year (1947-48), the simple average was \$2.87 and for the first six months of 1948-49 it was \$2.38 per bushel. It is out of the difference between the initial prices paid to wheat producers and the higher prices paid by the Wheat Board for Class I wheat sold to Britain and western Canada and for Class II wheat sold to other countries, that the retroactive payments now amounting to \$370 million have been secured.

### Farmers Pay Income Tax

FOR the tax year 1947-48, farmers filed 207,253 farm income tax forms. Of these more than 25 per cent, or 54,929, were filed in Saskatchewan, with the following numbers in other provinces: Alberta, 46,717; Ontario, 42,001; Manitoba, 29,786; British Columbia, 10,065; Quebec, 9,902; Nova Scotia, 5,371; Prince Edward Island, 5,297; and New Brunswick, 3,187.

The Income Tax Department maintains 37 "intelligence officers" throughout the country, who go from centre to centre assisting farmers and others in making out Income Tax returns. Of these there are 23 in Ontario, only three in the huge province of Quebec, three each in Alberta and British Columbia, two in Saskatchewan and one in Manitoba. There are also two in New Brunswick, but none in Prince Edward Island or Nova Scotia.

### Wheat Agreement Again

ON January 25, in Washington, representatives of more than 50 countries met for a further try for an International Agreement covering the marketing of wheat for a period of five years. If the negotiations are successful, 1949 will mark the third agreement reached. The first (1933), operated for a time but was abandoned; the second was achieved in 1948 after nine years of preparatory effort (interrupted by World War II), but was not ratified by the U.S. Congress (see Country Guide, April 1947, page 63, and April 1948, page 56). The agreement of 1948 involved 36 countries of which 33 were importers and three (United States, Canada and Australia) were exporters. At this writing negotiations are not concluded, nor is there any sure indication as yet that an agreement will actually be reached. Much importance is attached to the fact that Russia is represented this time in Washington and has signified her willingness to become a party to an agreement and to contribute "a substantial quantity" of wheat, estimated at around 100 million bushels. Three points under discussion are of cardinal importance: First, total quantity of surplus wheat to which exporting countries will commit themselves; second, the portion of such total quantity that will be allocated to each exporter; third, the price. In addition, of course, total commitments by importing countries must be made to balance against the total commitments of the exporters. Likewise, the length of the agreement is important but there would seem to be a little difficulty on this point.

Progress of the negotiations has been tightly wrapped in secrecy, beyond statements by the British delegation to the effect that Britain would expect substantial reduction in the general price level and counter statements by Canada and the United

States to the effect that the maximum price should not be less than \$2.00 per bushel, which was the figure included in the agreement of 1948.

Last year it was agreed that Canada's share should be 230 million bushels, that of the United States 185 million bushels, and that of Australia 85 million bushels. It has been suggested that Russia will demand 20 per cent as her share of total export. If she commits herself to 100 million it will make a total for the four exporting countries of 600 million bushels. Either figure might become important if the total of commitments by importing countries fails to amount to an increase over the corresponding figure for 1948, by the additional amount Russia is offering.

### Stabilization Down Under

AUSTRALIA now has a revised wheat industry stabilization plan, which has been adopted by the majority of wheat growers in the four main wheat producing states and approved by the legislatures of the State Governments.

Under the plan the Commonwealth Government guarantees 6s 3d per bushel, bulk wheat at seaboard, for wheat delivered by growers. This price will vary according to an index of production costs, calculated each season and beginning with the 1948-1949 crop, and the guarantee will apply to all wheat marketed through approved organizations to the end of the 1952-53 season. These organizations will be the Australian Wheat Board and other organizations authorized by state governments to receive wheat and market it as agents for the Australian Wheat Board. The guaranteed price does not apply to an export quantity in excess of 100,000,000 bushels in each year.

There is to be a stabilization fund established by a tax on wheat exported. When the export price is higher than the guaranteed price, 50 per cent of the difference (not to exceed 2s 2d per bushel) will go into the stabilization fund. The balance is paid to the grower. The Commonwealth Government has agreed not to hold an excessive amount in the fund and whenever justifiable will consider a refund to the oldest pool.

The states agree to fix domestic prices at the same level as the price guaranteed by the Commonwealth under the plan. State legislation provides that growers must deliver all wheat to the Commonwealth Pool voluntarily, though it appears that at any time the Australian Wheat Board may, under state legislation, direct wheat to an approved organization. State legislation also provides for regulation of wheat growing on marginal areas where this becomes necessary. The individual state may set up State Wheat Boards composed of elected growers' representatives and each State Board may nominate growers' representatives to the Australian Wheat Board on the basis of the established grower representation.

The wheat industry stabilization plan operated in Australia under wartime legislation during each of the seasons from 1942-43 to 1948-49. Contributions to the Stabilization Fund in the last three years have amounted to about £26,000,000 and legislation has been introduced providing for a refund to growers of 1s 1½d per bushel on the 1945-46 crop and 10½d on the 1946-47 crop.

## The RIGHT Way to Seed . . .



## The RIGHT Drill to Use . . .

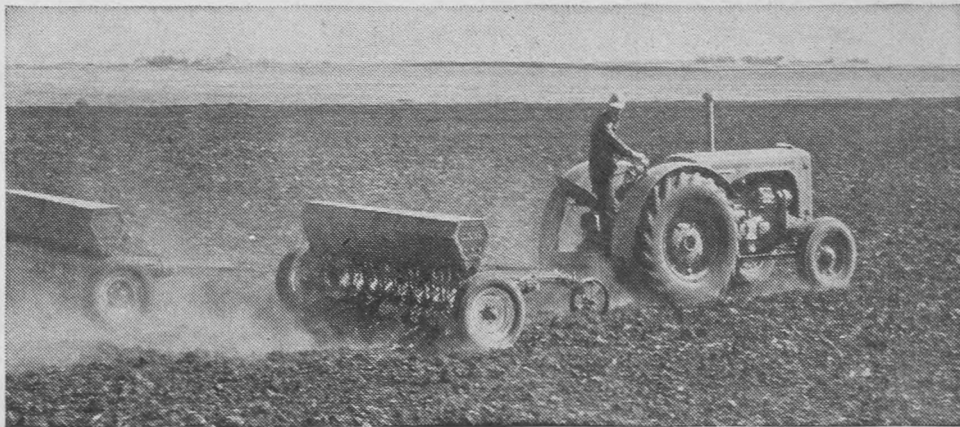
● In Western Canada, wheat should be drilled for best results. Both farm experience and test plot records support this seeding method above all others. Drilled grain, especially that planted by the deep-furrow method, has a better chance of survival, produces a more even stand, and consistently pays off in higher yields. In addition, it takes less high-priced seed to sow your fields, and drilling leaves ridges which help to shield the young seedlings against wind damage. A good drill is a sound investment for every Canadian wheat grower.

Case Seedmeter drills are made in many types and sizes to fit a great variety of needs. Your Case dealer will be glad to help you select the one which meets your requirements. Also, he will explain the Seedmeter design which assures equal seeding in every drill row. Above is pictured the Case deep-furrow press drill. Below is the new low-wheeled drill, which may be equipped with either chain coverers or press wheel attachment. See your dealer now—or write for folder. J. I. Case Co., Calgary, Edmonton, Regina, Saskatoon, Winnipeg, Toronto.

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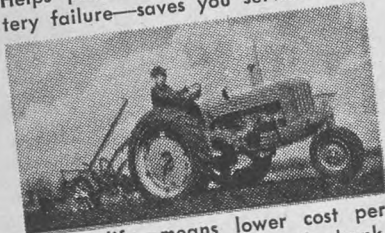
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The new Auto-Lite Sta-ful battery helps provide full power to spin cold, stubborn engines for fast winter starting.



Helps prevent major cause of battery failure—saves you service time.



Longer life—means lower cost per year of use—like money in the bank.

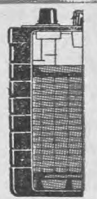
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## Get It At A Glance

Short Items Of Interest From Here and There.

THERE are now 114 locker plants in Alberta having approximately 40 thousand individual lockers. Most of these plants provide services to their patrons which include slaughtering, cutting, packaging and freezing, as well as pork curing.

\* \* \*

WHEAT stocks in United States, as of January 1, were 857,000,000 bushels of which 382,000,000 were on farms and 475,000,000 bushels in all other positions. In view of these large stocks, there is at this writing some possibility that wheat will be declared "in surplus" in the United States, as a result of which Marshall Plan funds would not be available for the purchase, in any other country, of wheat for Europe.

\* \* \*

MOUNTVIC MONOGRAM is dead. Only a short time before he had been publicized as the only living Canadian Holstein-Friesian century sire, so designated because he had more than 100 daughters which had completed R.O.P. tests. Owned by Elmcroft Farms, Oshawa, Ontario, Monogram had 106 daughters which, between them, had made 187 records averaging 13,930 pounds of milk, testing 3.81 per cent fat and containing 531 pounds of butterfat.

\* \* \*

JAMES TURNER, 40-year-old president of the National Farmers' Union of England and Wales who visited Canada three years ago as head of a N.F.U. delegation, received a knighthood in the King's New Year's Honors List, and is now Sir James Turner. Sir James is a West Riding farmer, an extensive pig producer, B.Sc. in agriculture and a noted rugby player. In the same Honors List Sir John Boyd Orr, former director-general of the United Nations Food and Agriculture Organization, was made a baron.

\* \* \*

UNTIL World War II began, the largest quantity of pork products exported from Canada in any year was 219,142,000 pounds exported in 1937. From 1940 when 353,309,000 pounds were exported, total exports rose each year until export of 718,464,000 pounds in 1944 was reached. Sharp declines have since taken place until only 249,125,000 pounds were exported in 1947.

\* \* \*

A CANADIAN Holstein cow, Supreme Ruby Echo, 275646, bred and owned by James R. Henderson, Kingston, Ontario, recently made a world record for lifetime production of both milk and butterfat on twice a day milking, of 219,536 pounds of milk containing 7,224 pounds of fat from an average test of 3.46 per cent butterfat. She is believed, by the Holstein-Friesian Association of Canada, to be the second cow in the world to make a lifetime record of over 200,000 pounds of milk on twice a day milking. The former world's champion for milk was Meadow Brae Echo Rosebud, with 203,810 pounds of milk and owned by Q. V. Whale, Aylmer, Ontario; and the former champion of fat on twice a day milking was a Canadian Jersey, Hillside Marjorie, with 7,188 pounds in 15 lactations.

INDIA is short of both food and fertilizer. To increase fertilizer, in order that more food may be produced, the government of India hopes to add an extra two million tons of nitrogen to the soil, by properly composting waste materials in rural and urban areas, including 550,000 villages where most of India's 200,000,000 cattle are kept. About 600 village compost schemes are in operation, from which it is hoped ultimately to produce an additional ten million tons of foodstuffs.

\* \* \*

THE storage of grain without serious loss is difficult in tropical countries. For this reason F.A.O. member countries in Latin America met in Columbia in mid-February to plan a program for the protection of stored grain from damage by insects and rodents. No previous studies of the problem of grain storage in Latin America and tropical areas have been made, and almost nothing is known about safe storage methods.

\* \* \*

AFTER digging a catch basin 120 feet long, 20 feet wide and 15 feet deep in a low lying field, to avoid crop damage from run-off, a New York State farming family found that rain water disappeared in the hole and was quickly absorbed. In two years seven feet of topsoil had been carried into the hole and deposited in layers, indicating the number and frequency of storms. Last fall they hauled eight hundred tons of topsoil back to the fields from which it came.

\* \* \*

BRITAIN'S exports last year were three times her total exports for the year 1938 and constituted a peacetime record for the United Kingdom. Her imports were also the highest on record and among these Canada supplied 78 per cent of the wheat Britain needed to buy from other countries, 81 per cent of the flour, 70 per cent of the bacon, 10 per cent of the cheese, 80 per cent of the dried eggs, 29 per cent of the shell eggs, four per cent of the tobacco, 28 per cent of the timber, 32 per cent of the non-ferrous metals and 45 per cent of the newsprint.

\* \* \*

A TOTAL of 22,562 veterans are at present attending Canadian universities, of whom about 1,000 are women. More than 6,000 will graduate this spring, 8,000 in the spring of 1950, over 5,000 in the spring of 1951, and 2,000 in the spring of 1952. Of the total number of veterans involved, 1,250 are registered in agriculture and the same number in law, with 2,000 in Commerce, 5,000 in Engineering and about 10,000 in Arts and Science courses.

\* \* \*

CANADA'S net national income in 1948 is estimated at 12.8 billion dollars by the Dominion Bureau of Statistics. This includes salaries, wages and other labor income, investment income, net income from agriculture and other non-incorporated businesses, and military pay and allowances. Canadian citizens are estimated to have spent 10 billion dollars on personal goods and services, while governments spent 1.683 billion dollars.



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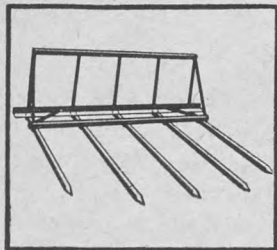


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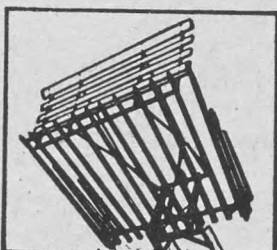
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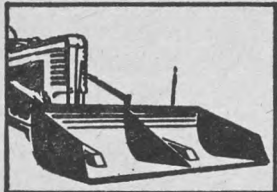
FORAGE FORK



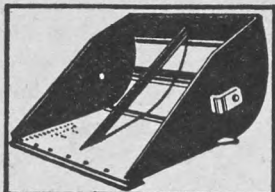
LOADER BOOM



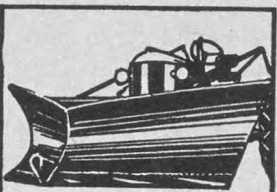
PUSH-OFF STACKER



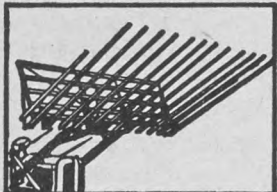
NO. 80 SCOOP



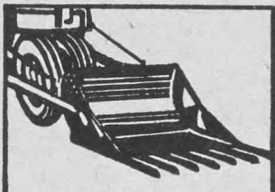
DIRT BUCKET



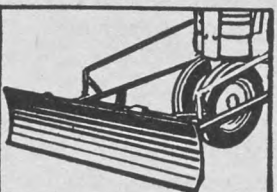
SNOW PLOW



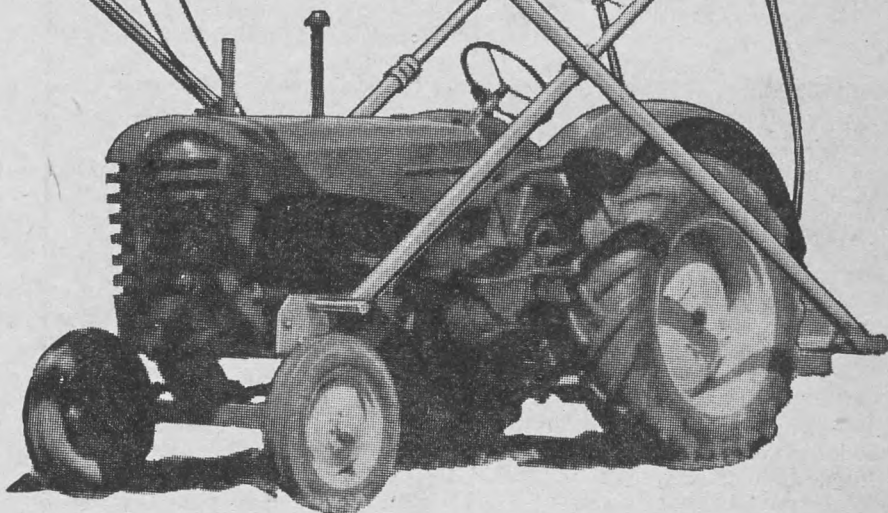
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*Wherever There's Livestock There's Need for Franklin's*

## Here's a Story of "Big Business"

Any story of Canada's largest life assurance company — the Sun Life Assurance Company of Canada — is a story of "big business" because more than one and a half million people the world over are safeguarded by the protection and security of Sun Life policies.

The ever-growing goodwill which is enjoyed by the Sun Life of Canada is due to the diversity and liberality of the Company's life assurance policies, to the character of its representatives, and to the promptness and efficiency of its service to policyholders, throughout its entire 78 years' history.

Last year alone, payments amounting to more than \$100,000,000 were made to Sun Life policyholders and beneficiaries.

THE SUN LIFE STORY of 1948 is made up of many thousands of individual records, each a simple human document, yet of vital importance to those concerned:

### The Story of Mrs. M.B.H.

... is a tragic one. She lost her husband in an automobile accident and was left alone with three young children to care for. But to her husband, responsibility reached beyond death, and his Sun Life Family Income policy provides for the family until the youngsters are grown up, and then gives to the widow a regular income for life.

### C.J.S. Was a Good Salesman

... who all his life looked ahead. Thirty years ago he paid his first premium on a Sun Life Retirement policy. Last October he made his final business trip and

now, at 65, he enjoys the leisure that his foresight made possible.

### T.L.M. Bought a Business

... and is now his own master. He planned this when, on graduating from college, he took out a Sun Life Endowment for assurance protection as well as systematic and easy saving. The Endowment matured recently, providing the means which enabled him to take advantage of a great opportunity.

### No Need of Charity



In the small industrial plant owned by D.B.L., 100 employees never have to pass the hat when a bench pal dies.

Like hundreds of thousands of workers in other industrial and business organizations large and small, they are protected by Sun Life Group Assurance, an effective instrument for good employee-employer relations.

Yes, there are thousands of such cases in the Sun Life story of 1948 — a story of service to the public, repeated year in, year out.

### From the 1948 Annual Report

Benefits paid to policyholders and beneficiaries during 1948: \$105,046,413

Total Benefits paid since the first Sun Life policy was issued in 1871: \$2,126,737,233

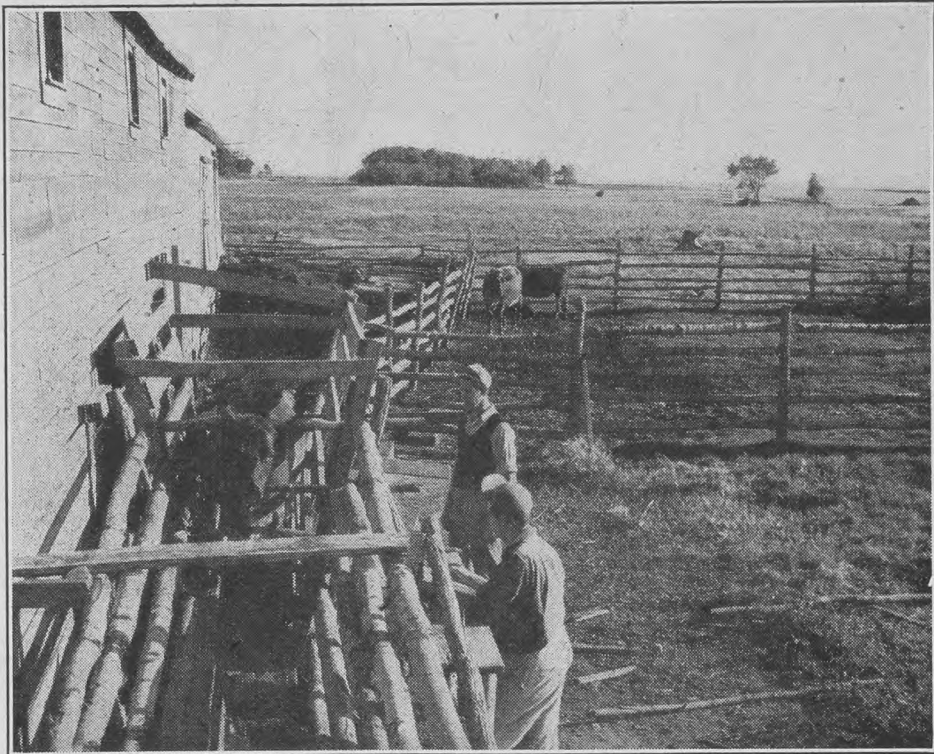
New Assurances issued during the year: \$374,652,547

Assurances in force: \$4,089,234,182

## SUN LIFE OF CANADA

Copy of the Annual Report for 1948 will be sent to all policyholders, or may be obtained from the Head Office, Montreal.

## LIVESTOCK



[Sym photo.]

Here is where the Horn Fly control experiments were conducted, that are referred to on this page.

### Share Renting Of Livestock

THERE is always more or less share renting of livestock in any large farm community. Sometimes farmers are unfamiliar with the arrangements that are considered fair and reasonable under such circumstances and all kinds of questions are likely to enter in. The following comment therefore, might be helpful.

It is assumed that the cattle to be leased are owned by A and that they are grade cattle. There is no standard lease covering livestock share rentals, and no two rental propositions are identical. Consequently, in order to make such a lease quite legal it is better to have the agreement drawn up by a local barrister according to the terms agreed on. If, on the other hand, one merely wishes to arrive at an understanding with the other party, a letter from A who owns the cattle to B who is to lease them, covering all the points and signed by A, may be mutually satisfactory. In such cases a duplicate of this letter should be made containing the following sentence, or one of equal import: "The foregoing agreement is acceptable to me and is agreed to by me." This duplicate is then signed by B and the signatures on both copies of the letter witnessed by someone over 21 years old. Each party to the agreement then has a copy of the letter signed by the other.

As a rule the owner of the livestock supplies the stock plus a registered bull, and the renter supplies everything else, including feed, pasture, fencing, shelter and all labor required. A and B will share veterinary and similar expenses equally, in most cases. The proceeds from the sale of all increase of the herd is divided equally after marketing costs are paid. Undivided increase is owned jointly and as a rule the division of it is made every three years, the owner of the herd having first choice, the renter second, the owner third and so on until all of the undivided increase is divided between the two parties.

Sometimes the renter will divide the increase into two equal groups, and the owner has the choice of which group he wants. Of course, they can mutually agree to share the increase in

any way they wish. Any deaths in the original herd should be made up out of the undivided increase first, which means that both the renter and the owner replace the losses equally. On the other hand, if an animal is old, say more than 10 or 12 years, then the loss or death of such an animal should be borne by the owner of the herd.

Proceeds from the sale of cattle from the original herd should all go to the owner, who should agree to maintain a breeding herd of a certain size, or number. If this is done, losses or sales from such a breeding herd must be replaced, unless mutually agreed otherwise. It is well also to agree on a maximum size of herd, including increase, as well as a minimum size.

If A owns the land as well as the cattle, a different type of lease or agreement is required. This is known as a share crop and livestock lease or a 50-50 lease.

### Effective Horn Fly Control

EXPERIMENTS conducted by the Dominion Livestock Insect Laboratory, Lethbridge, in co-operation with a chemical company, have indicated that cattle on pasture will make more rapid gains if sprayed with DDT to protect them from horn flies. The experiments also indicated that milk production was higher from sprayed cattle.

Two herds located in the Interlake area of Manitoba were used for the experiment. The first herd was sprayed on June 24, July 13 and August 12, 1948, with DDT at a concentration of .24 per cent. The spray was applied at 400 pounds pressure. The second herd was not sprayed, and was used as a check on the results gained in the sprayed herd. All of the cattle were weighed in June and the weights recorded. They were weighed again in late September.

The farmyard was sprayed with the same DDT solution that was used on the livestock. The interior of the barn was sprayed with a mixture of 60 gallons of water, 26 pounds of 50 per cent wettable DDT and 60 pounds of lime. A high pressure sprayer was used.

It appeared to the laboratory officials and to co-operating representa-



tives of Green Cross Insecticides that the beef animals on pasture that were sprayed made better gains than their counterparts not so treated. A group of 15 sprayed yearlings made an average gain over their spring weight of 37.12 per cent, while 22 head that were not sprayed made an average gain over their spring weight of 31.47 per cent. Other results were comparable.

Milking cows that were sprayed also showed less decline in milk production during the fly season than cows that were not treated. Also, milk flow increased for some days following spraying.

The final conclusion, based on the results of the experiments, was that spraying of cattle at a cost of materials of 10 cents a head, leads to an increase of summer gains of beef cattle of at least 30 pounds per head, or an increase of 20 to 25 per cent in milk production when milk cows are sprayed. These findings are largely borne out by the findings of independent experimenters in the United States.

### Bull Blinder

**H**AVE just read your January article by Howard Snyder viz. Public Enemy No. 1, and after my experiences with bulls, and narrow escapes, I wonder that I'm alive to write this. I could write quite a lot on the subject, but my object in writing is to say that one of the best, if not the best forms of protection I've seen is a bull's bridle with a wide leather band across the eyes. My



This leather bull blinder cost Geo. D. Bell, Angusville, Man., about \$10.

former neighbor brought the idea from the States and uses one every time the bull is led out—and he has a bad one. As far as I know, he has had no trouble since using it. — N. M. Chenoweth, Man.

### Varying Fleece Values

**T**HE Wool Laboratory, Dominion Experimental Station, Lethbridge, in a study of six different range flocks, found that fleece weights ranged from a low of 5.9 pounds to a high of 15.0 pounds. In one particular flock there was a difference of 7.9 pounds between the heaviest and lightest fleeces. At 40 cents per pound, which was somewhere near the average value per pound in 1948, their studies revealed that fleece values ranged from \$2.50 to \$6. It is obvious that the ewes with heavy fleece are more profitable than those with lighter fleeces.

The studies of the six flocks showed a difference of two pounds in the

# Farm Service Facts

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IMPERIAL OIL LIMITED

*Farm Service Facts in February discussed the preparation in general of farm implements to make ready for Spring. This month we are offering some details on the pre-season check up of your cultivator and one-way disc.*



## CAREFUL CHECK-UP OF ONE-WAY DISC WILL CUT YOUR COSTS

The part of your one-way disc that does the job for which the implement was intended is the disc itself. However good the condition of the equipment otherwise, it cannot do its work well or economically if the discs are dull. The addition of weight will not make up for dull disc edges. Cracked, chipped or broken discs should be replaced or welded and sharpened.

Bearings should be inspected for wear which will be indicated if there is slack. Use a lever and block to pry up the disc gang for inspection. Horizontal slack will indicate wear in the thrust bearing, and vertical slack will indicate wear in the hanger bearings. If excessive slack is noted, open the bearing and inspect for wear. When wear is excessive, the bearings must be replaced.

When checking the power lift, examine the rollers and pins inside

the lift mechanism for wear, and replace if the power lift has been giving any trouble. A severe strain will be placed on the linkage of the power lift if the heavy springs are not adjusted to the proper tension, and if the hitch is not low enough to help the power lift.

Inspect all bolts, especially the axle or gang bolt. The gang bolt, which holds the discs together, should be "sledged home" when being tightened, to draw the discs and spacers up tight. Loose gang bolts will cause serious disc wear around the centre hole, and even breakage of the spacers.

This check-up completed, your one-way will be ready when required in the field. For efficient operation then, the operator will have to make special adjustments to meet his conditions. These adjustments will be explained in an early issue.

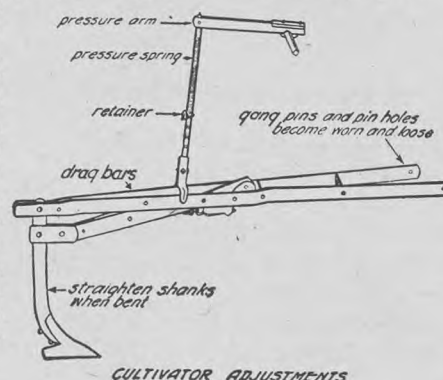
## CULTIVATOR SHOVELS MUST BE SHARP AND SET RIGHT

The quality of work done by your field cultivator and the cost of doing that work depends more on the shovels than any other part of the implement. Unless they are sharp, clean and rigidly held in their proper position, you will not get effective weed control. Deeper tillage than necessary will result in increasing the draft of the cultivator, thereby using more power, which means more fuel, higher cost per acre. Complete weed cutting at shallow depth without excessive soil pulverizing is most desirable. The shovels furnish the cutting edge. They must be sharp from point to tip and clean, to scour and work efficiently.

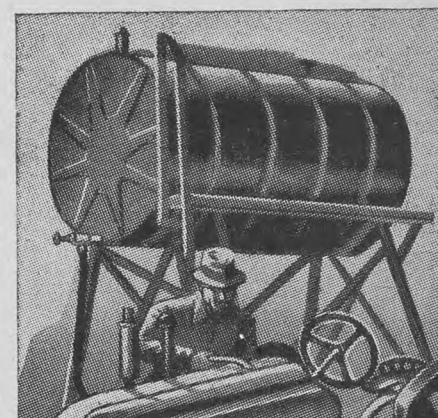
The shovels must be held rigid. Gangs should be removed and straightened if bent. If they are loose the cause usually is worn gang draw pins. This can be corrected by putting in oversize pins.

The pressure springs and their adjustments must be checked to be sure that uniform pressure is applied to each shovel. If the pressure rod and spring retainers are badly worn they should be replaced. The

pressure arms should be tight and in proper alignment with the drag bar.



When the cultivator is drawn from the same hole in the vertical clevis year after year, the hole becomes badly worn and it may be filled by welding. The correct vertical adjustment of the cultivator draw bar ensures proper depth of each row of shovels. The tilt of the individual shovel is provided by an adjustable linkage on each shank. The shovels should not be unduly tilted to force penetration.



## A Farm Storage Tank Doesn't "Cost" IT PAYS!

A farm storage tank permits you to buy and store enough fuel at one time to be sure of having a supply on hand when you need it. No costly delays when tractors stand idle, waiting for fuel to be delivered.

It helps to keep fuel clean and avoid plugging of fuel lines and carburetors with grit, dust or water. The tank can be mounted with enough slant to cause any impurities to settle away from the outlet.

It saves time in re-fueling tractors and trucks, if the tank is mounted overhead. Gravity flow is quicker than pumping or pouring. It prevents the spillage of the pump-and-pail method . . . of the wastage of the "last gallon" that is often left in the bottom of each barrel.

A farm storage tank pays in added safety, because it can be located well away from house, barn or sheds.

Tanks come in three sizes. The price is reasonable. See your Imperial Oil Agent.

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NAME.....

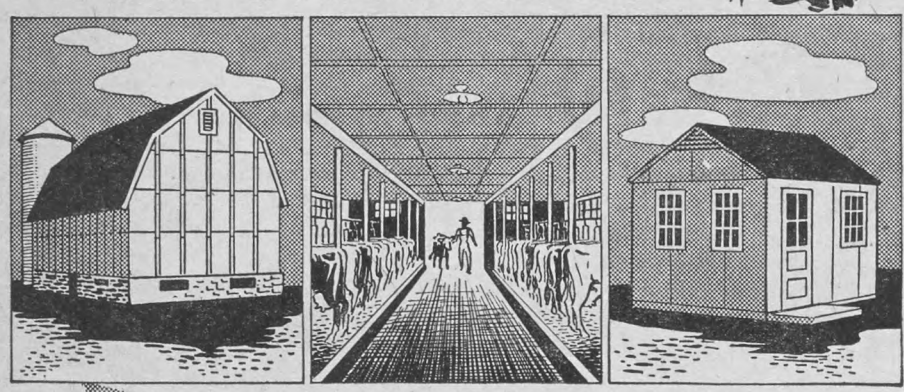
ADDRESS.....

Subject for April—Tractor operation:



"You'll find hundreds of uses for this modern, fireproof building board!"

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**FLEXBOARD solves countless farm building problems—inside or outdoors**

Want a fireproof exterior for your barn . . . a sanitary interior for your dairy . . . a rodent-proof material for grain bins? Then J-M Asbestos Flexboard is your answer! This sturdy, asbestos-cement building board has unlimited uses on the farm. It can be used inside or out for maintenance-free walls, floors or ceilings. Flexboard saves upkeep expense, because it never requires painting or other preservative treatment! It's a time-saver, too. Available in large, 4' x 8' sheets, Flexboard is easy to nail, easy to saw, easy to handle. See your J-M dealer for full information.

**FREE BOOK**—For your free copy of the new J-M book, "Flexboard for the Farm", write Canadian Johns-Manville, Dept. CG29 199 Bay Street, Toronto.

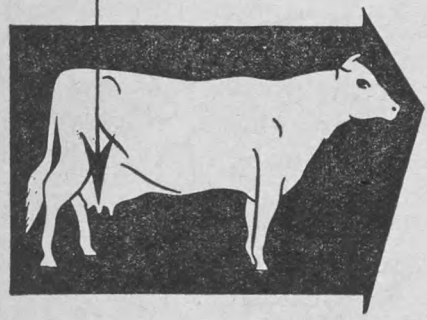


B-814

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To control  
**MASTITIS**  
quickly and easily



### PENICILLIN "BOO-JEES"

The practical mastitis treatment

**NO SPECIAL EQUIPMENT NEEDED**

Simply milk out the infected quarter and insert the "Boo-Jee" into the teat cistern. It dissolves quickly and releases penicillin to attack the infection.

"Boo-Jees" are packed with a special drying agent to protect their penicillin content and do not require refrigeration.

Two strengths are available:

- No. 2903 — 10,000 Int. Units Penicillin. Package of 12 . . . \$3.00
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Available from your druggist or veterinarian.



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SHEEP PELTS DEER SKINS  
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Ship with confidence to the old reliable  
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average fleece weights of the lowest and highest producing flocks. At 40 cents a pound this would mean an increased return of 80 cents per sheep from the better flock, or, in a flock of 1,000 ewes increased return of \$800.

Perhaps the most interesting point revealed in the study was that even in the highest producing flock there was a difference of 7.5 pounds between the heaviest and lightest fleece. This suggests that even in the best flocks careful culling of ewes and selection of high-producing rams could increase wool production substantially. In one American flock, average fleece weights were increased from eight to 11 pounds through culling and selection over a 10-year period.

Accurate culling can be done by weighing each fleece at shearing time and marking the low producers. This method is not very practical in most flocks. An alternative method is to do the culling either in the fall, or just before shearing, on the basis of staple length, fleece density and fleece quality. If the culling is done in the fall the ewes can be wool branded and sold. If it is done just before shearing, the wool can be opened over the shoulder or back and branding paint put on the skin with a thin stick. This mark will show up after shearing and a culling brand can be placed on the sheep for use in the fall.

This method has been successfully used by many sheep breeders. Staple length and fleece density are directly related to fleece weight, and culling on the basis of these characteristics can be effective in increasing production.

### Conserve Browse Plants

**B**ROWSE plants—willows, buckbrush, sagebrush, salt sage, winter fat, and the like—have been found to contain a lot of phosphorus and protein, the two nutrients that are particularly scarce in grasses during the winter months. The tender twigs, stems and leaves of these plants, more or less browsed by domestic animals, are not the forage-value equal of grasses. However, they are of nutritive value to livestock, particularly during periods of drought or feed shortage.

Most of the grasses common to the shortgrass prairies contain plenty of the essential nutrients during the growing period of the summer. When these grasses are cured and exposed to the fall and winter weather their nutritive value declines. Many of them do not contain sufficient nutrients to adequately provide for the needs of range livestock during the winter. This is not so of the common browse plants. They provide a valuable supplementary feed when nutritious forage is scarce.

The Dominion Range Experimental Station, Manyberries, Alberta, points out that it is not only the shelter derived that draws cattle to river bottoms during the winter. It is also the abundant supply of browse.

### Stretching Winter Feed

**S**HORTAGE of feed, coupled with a late spring, led to serious livestock losses a year ago. The liberal use of concentrated emergency feeds, such as oilcake, oilmeal, cereal grains, and mill feeds, can cut roughage requirements in half, making the limited supplies of hay and straw last twice as long.

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Make money. Know how to break and train horses. Write today for this book **FREE**, together with special offer of a course in Animal Breeding. If you are interested in Gaiting and Riding the saddle horse, check here ( ) Do it today—now.

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(Self-Locking)  
CATTLE and  
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Why go on suffering with terrible burning, gnawing pains caused by acid stomach when you can get prompt, safe relief with **CANADIAN VON TABLETS**? This famous treatment has accomplished amazing benefits in hundreds of really severe long-standing acid stomach cases. CANADIAN VON TABLETS counteract excess acidity, relieve that bloated, gassy feeling and soothe acid irritation. You do not have to go on a rigid liquid diet. If you suffer from indigestion, gastritis, heartburn, bloating, pains after eating induced by excess stomach acidity, try **VON'S FREE**. Send at once for **FREE** Samples of this treatment. Write

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Low-cost **WARBICIDE** treatment is effective, painless, non-poisonous. Specially prepared according to official Government recommendations. 1-lb. cans for hand treatment; 4-lb. bags for power sprayers.

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**Pesticides**



The amount of concentrated feed required will depend on the condition of the livestock and the severity of the weather. If calves are given a limited amount of roughage plus three to five pounds of grain, or one to two pounds of oilcake, they will do well. Daily gains of a pound a day are possible for calves receiving adequate grass or hay, plus two pounds of oilcake. Larger quantities of these feeds will be required to do the same job on older stock.

The Dominion Experimental Station, Swift Current, points out that it is practically out of the question to get cattle that are weak or emaciated back on their feed with roughage of indifferent quality. The feeding of concentrated feeds, rich in protein, is essential.

The wise procedure is to size up the feed situation early in the winter and make the necessary provisions for emergency feed. The important thing is, first, to bring the livestock through the winter, regardless of weather, and second, to bring them through in fair shape.

### Herd Management Important

A GROUP of dairy farmers—members of the Cirencester Farmers' Union in England—recently heard some plain talk about the condition of the dairy industry in their country. Prof. R. Boutflour, principal of the Royal Agricultural College, told them that poor milk yields were due purely and simply to bad management and that dairy husbandry in England was in a bad state. He considered the production throughout the country to be a disgrace, in that the cows produced an average milk yield of not more than 515 gallons each per year. He believed that there was no purpose in breeders talking of pedigree bulls and foundation cows until their herd management was improved.

The speaker pointed up his argument by reference to results gained through careful management at the Royal Agricultural College. In three years at the College the average yield for the first year had been 941 gallons per cow, in the second year 1,015 and in the third year 1,130 gallons. These results were gained from cows bought in the market at ordinary prices, yet at the same time only nine herds in Gloucestershire were selling as much as 800 gallons per cow per year.

Some of the cows used by the College had been bought with low milk records. One with an average yield of 520 gallons per year had produced 1,250 gallons during her first lactation on the College farm. Another whose previous three yields had been 620, then 591 and 924 gallons produced 1,515, followed by 1,307 and 1,171 gallons in three successive 254-day lactations. The increased production, he argued, was due to improved management.

### Emergency Treatment

SUPPOSE a valuable cow of yours is down and very sick with milk fever and that you have nothing to treat her with. You find that your near neighbors cannot help and that there is no veterinarian to be had less than fifty miles away. What would you do? I had to answer that question in a hurry some years ago.

The doctor book told me to inject air into each quarter of the udder and

tie off the teats. Easier said than done. However, I got a valve stem out of an old auto tube and a quill from the wing feather of a chicken and put the two together, after cleaning out the feather's pith and burning a small hole in the end of it with a red hot needle. Then I sterilized this contraption in a Listerine solution and screwed it onto the hose of a tire pump. The quill was lubricated with vaseline and inserted into the teats. Half a dozen strokes of the pump filled each quarter quite nicely and strips of tape were used to tie off the teats. In a few hours my sick cow was much better.

I have used this contraption a number of times since and have never lost an animal from milk fever yet.—Robert J. Roder, Alberta.

### Selection For More Milk

IN a talk to The Farmers' Club London, England, Dr. A. D. Buchanan-Smith, University of Edinburgh, advised that it was easier to breed for and fix a type of conformation than it was to get and fix milking capacity. "It is this that entices so many breeders to go after the false gods of the showyards," he stated. "The conformation of the yearling bull calf of a dairy breed has only a slight relationship to the conformation of the 50-ton milk cow of the Friesians."

The speaker impressed his listeners with the importance of female selection. He argued that so much importance was attached to the selection of a good bull that too little attention was paid to the importance of good cows. Actually, without an accurate measure of the milking capacity of the dam it is not possible to select a good bull. Further, without an accurate test of the capacity of her granddaughters it would not be possible to find out how right, or wrong, the breeder was in his selection of that bull.

The policy adopted on the experimental farm in Pentland Hills, associated with the University, is to keep all heifers until they have completed two lactations and then keep only the top 33 per cent of them as cows.

### Feeder Lambs Go East

MANY sheep raised on western Canadian ranges, arriving on the eastern markets in October, are not big enough or fat enough to go to the abattoirs, so are purchased by feeders. During 1946 and 1947, eastern feeders bought 23,000 such sheep each year, at prices ranging from \$13 to \$13.50 per hundredweight. If the lambs gained 25 to 30 pounds in weight, and improved grades increased the price two to three dollars a hundred, the feeders felt they had a satisfactory margin.

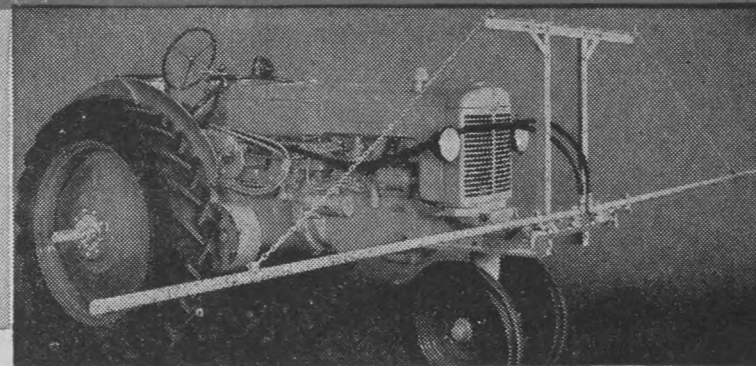
In 1948 only 18,000 feeder lambs reached the eastern markets, and were bid up to \$20 a hundred or more. Many feeders felt the risks were too great at the price, but those who did buy sold at a price up to \$26 a hundred for choice animals in early January. With a gain in body weight of around 30 pounds, this price covered costs and left something over.

Many sheepmen are disturbed by the fact that lambs going to market are accompanied by good breeding ewes that could well be used for breeding. They feel that the demand for this particular meat diet, and for wool, does not justify any liquidation of breeding flocks.

# Now... Better than Ever!

## KROMER'S WEED INSECT SPRAYER

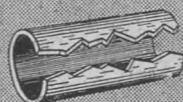
KROMER  
Tractor  
Sprayers  
Available in  
Five Boom  
Lengths



KROMER tractor and trailer model weed and insect sprayers have an enviable reputation. Their use in the field during past seasons, under the most difficult spraying conditions has shown that they deliver the correct volume and an even distribution of chemical.

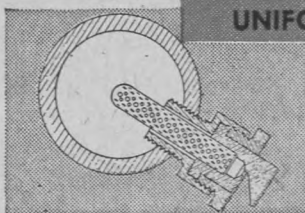
### KROMER'S FINISH "X" Utilizes The Superior Strength and Durability of Steel

#### FINISH "X"



A new, secret process gives KROMER seamless steel booms and tanks a coating resistant to chemicals and acids that attack aluminum, brass or stainless steel. FINISH "X" adheres tightly, is flexible and very durable.

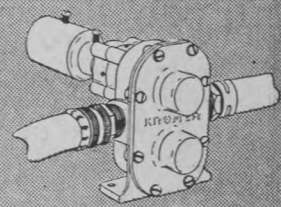
#### UNIFORM APPLICATION



— KROMER's exclusive fan type nozzle, developed specifically for weed spraying, guarantees even distribution of chemicals. Long-life, non-clogging, non-fogging tips and screens easily disassembled by hand.

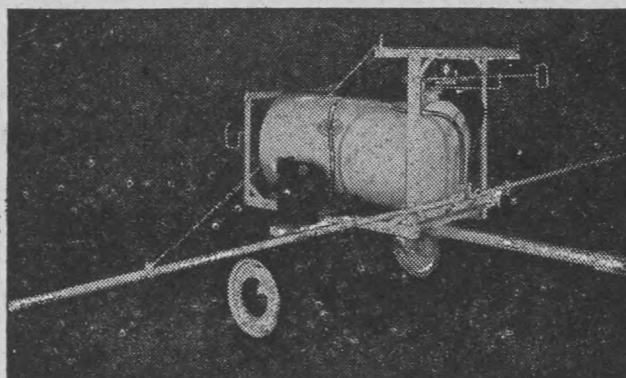
### The KROMER Gives You the Capacity and Pressure For Every Spraying Need...

The KROMER all metal, power take-off pump has anti-friction bearings requiring no lubrication. The KROMER pump is made of brass and stainless steel and has no valves to leak or stick. It delivers the correct pressure and volume for every spraying requirement, including corn borer, livestock and pre-emergence spraying.



### One KROMER Sprayer For All Spraying Conditions

The KROMER Sprayer has ample pressure and volume for crop spraying of various chemicals and insecticide spraying on plants and animals. KROMER booms have 10 inch nozzle spacing for high gallonage applications and row crop work. Equipped with plugs for every other nozzle for low gallonage spraying.



KROMER Trailer Models available in three models with six boom lengths.

KROMER Tractor Mount Sprayers available in five boom lengths. KROMER Trailer Models available in three models with six boom lengths. KROMER Hand Sprayer and Row Crop Attachment furnished as special equipment.

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# Weeds almost took over his Winter Wheat



Ben Bickner, Vanguard, Sask., uses Agricultural Weed-No-More to keep his fields free of weeds.

## But He Saved His Crop with Agricultural Weed-No-More

Grain farmer Ben Bickner of Vanguard, Sask., sprayed his winter wheat in the spring with Green Cross Agricultural Weed-No-More. He says...


"Weeds were really bad in my winter wheat, until I used Agricultural Weed-No-More. 3 weeks after application weeds were almost completely gone. I figure that if I hadn't sprayed, weeds would have taken over the crop. My wheat would not have been worth harvesting."

You cannot afford to gamble with weed control. You've got to be sure! Give weeds half a chance and they'll spoil your harvest. Weed control with Weed-No-More is your promise of bigger yields and extra profits. Kill weeds in your crops with Agricultural Weed-No-More. It *penetrates quicker*... rainfall minutes after application cannot wash it off. It *acts faster*... kills weeds more quickly than any other weed-killer. It's *safe*... used according to directions, it will not harm crops.

## Weed-No-More Now Proved Superior 2,4-D Formulation

1948 research showed that the ingredients in a 2,4-D Ester formulation, *other than the Ester*, are important to the product's performance. The tests employed combinations of different emulsifiers, carriers and couplers with the 2,4-D Ester. Results *proved conclusively the importance of the other ingredients in Agricultural Weed-No-More*. Those other ingredients make it suspend more readily... mix more easily with hard waters... safer for crops... give quicker knock-down and better control of weeds.

Use Green Cross Agricultural Weed-No-More...  
proved on over 1,500,000 acres of Canadian grain.



# AGRICULTURAL WEED-NO-MORE

(Quick-Penetrating ESTER of 2,4-D) \*Reg'd. trade-mark

Made by GREEN CROSS INSECTICIDES Sutherland Ave. at Euclid St., Win., Man.

## A New Appraisal

Continued from page 15

herd is under closer supervision.

It has been general practice to use semen on the day of collection and the following day as well, and to use individual bulls only every four to five days. We have found a great variation in the fertility of different bulls in both breeds. We have used bulls that bred quite satisfactorily under natural breeding, but showed a low fertility record in artificial service.

Membership in the Olds Club was set at \$2.00, and each original membership entitled the member to service, at the prevailing service fee, for the life of the member or club. In other words it was not an annual membership. The table gives a tabulated history of that Club.

### PROGRESS OF THE OLDS LIVESTOCK BREEDERS' CLUB

	1944	1945	1946	1947	1948
Number of paid up members	174	225	313	358	384
Number of active members	120	150	200	210	145
Number of cows bred	911	975	1,212	1,104	641
Number of cows per active herd	7.6	6.5	6.0	5.4	4.4
Mileage per first service	28.8	28.2	27	29.8	31
Conception rate %	48	58	50.2	57	*57

\*Conception rate indicated for 1948 is for the first six months only.

Conception rate is taken as the percentage of cows not reported for second service five months after the date of first service. While this is not an absolutely true picture of conceptions, it is assumed that with the first return service free of charge, most cows that returned from their first service would be reported for second service. Another interesting point in the table referred to is the reduction in the number of cows bred per active herd. This would indicate that some herds large enough to justify bull ownership, are drifting back to natural service.

**D**URING the summer of 1948, I was able to visit breeding centres and county associations in Ontario, New York, New Jersey, Nebraska, Minnesota and Manitoba. The objective was to determine the main causes of difficulties encountered in Alberta, and if possible to find their solution. Various problems were discussed with managers, breeding centre technicians, research men, county technicians and farmers.

I was especially anxious to know if these units which appeared to be operating satisfactorily were doing a better job of breeding than we were doing in western Canada. Practically all units report conception rate on the basis of the percentage of cows settled with first service; and in practically all cases this figure was arrived at by the number of cows not reported for second service after 60 to 90 days. Exact figures on conception rate are not easy to get, but most units quoted figures around 60 per cent. One large privately owned breeding stud published conception rates on a large number of county units that averaged out to 58 per cent over a six-month period. Still another unit shows the definite average of 57 per cent over a two-year period. Work conducted in Wisconsin showed an average error of 6 per cent between non-returns at 60 days, and actual pregnancies. We assume that the percentage error is less where non-returns are listed at 5 months after service, than when listed at 60 to 90 days. With an average of 55.5 per cent from January 1, 1945

to July 1, 1948, based on five months non-return, it would appear that our breeding results are not too far out of line with those in the more densely populated areas of Ontario and the eastern states.

Most artificial breeding units that have been in operation for a few years have gone through pretty much the same stages, modified to some extent by local conditions. A great many units started in a small way with a bull stud to supply service to a local community. The objective in most cases was to inseminate a sufficient number of cows to keep one operator busy. In some cases he operated the breeding centre as well as doing the inseminating.

The greatest weakness of this plan appeared when it was found that two or three bulls for each breed would not supply satisfactory service. As a

rule, the outstanding complaint was with rather poor breeding results. It was also found that the great variation in the performance of bulls necessitated that quite a reserve of bulls of each breed be carried. This suggested the less frequent use of bulls and the use of semen for a shorter length of time. Such a program requires more bulls, which in turn places too heavy a financial burden on most small units. If provision is not made to supply sufficient bulls, the whole program suffers sooner or later, from poor breeding results.

**A**S a result of this experience we find that the recent trend has been toward centralized breeding centres, each serving a number of county units and employing one or more inseminating technicians. It has been found that semen dilutions can be made much higher than was once thought possible, and this development has made possible the operation of very large breeding centres. Under the centralization plan, bulls are used not oftener than once a week, but semen collections may be made every day. Where one large unit is serving a state or province, one day is spent in making collections and getting semen shipped out to the county units. Consequently the technicians are not using semen until it is 24 hours old and must receive shipments every day if semen is not to be used past the second day.

These large breeding centres are financed by charging the county breeding association so much per cow. Units that I visited made charges of \$1.50 to \$2.50. The county unit has to finance its operations out of the balance of the service fee. Whether or not they can do this depends on their costs, which include salaries, travelling expenses, rent, telephone and equipment. Income is governed by the number of cows bred and the service fee charged. Some units operate nicely with a service fee of \$6 while others are practically bankrupt at a fee of \$10. The concentration of cows, road conditions, and the type of farmers in the area are largely responsible for this variation.

The province of Ontario has modi-



fied its centralization to some extent by setting up a number of breeding centres in areas which should give each centre a potential of ten thousand cows and upwards, without having to transport semen any great distance. Such a set-up has the advantage of efficient bull utilization, without becoming too top heavy. Because a number of their technicians work directly from the breeding centre, it is possible to keep closer contact with the farmers and at the same time provide technicians with their days off and holidays, by staggering their time. This could not be done if they were working in a sparsely populated area. It also permits them to use semen the same day it is collected. Because these centres and the surrounding areas are operating under single management it is also possible for weak localities to be carried by strong ones. This is not the case where breeding centres supply semen to a number of independent units.

The secret of the strength of any breeding centre rests in the strength of the county breeding associations. A number of county associations that can provide a total of 10,000 or more cows can support a good breeding centre. However, if it requires 12 or 14 county locals to provide that many cows the chances are they will have trouble financing local operation and may break up for that reason.

**C**ONDITIONS in the mid-western states come closer to our conditions in western Canada; and in that area there are numerous county locals operating under difficulty. Some of these locals probably never should have been started. They have the source of service at large breeding centres but do not have the necessary support in their local community to assure their success.

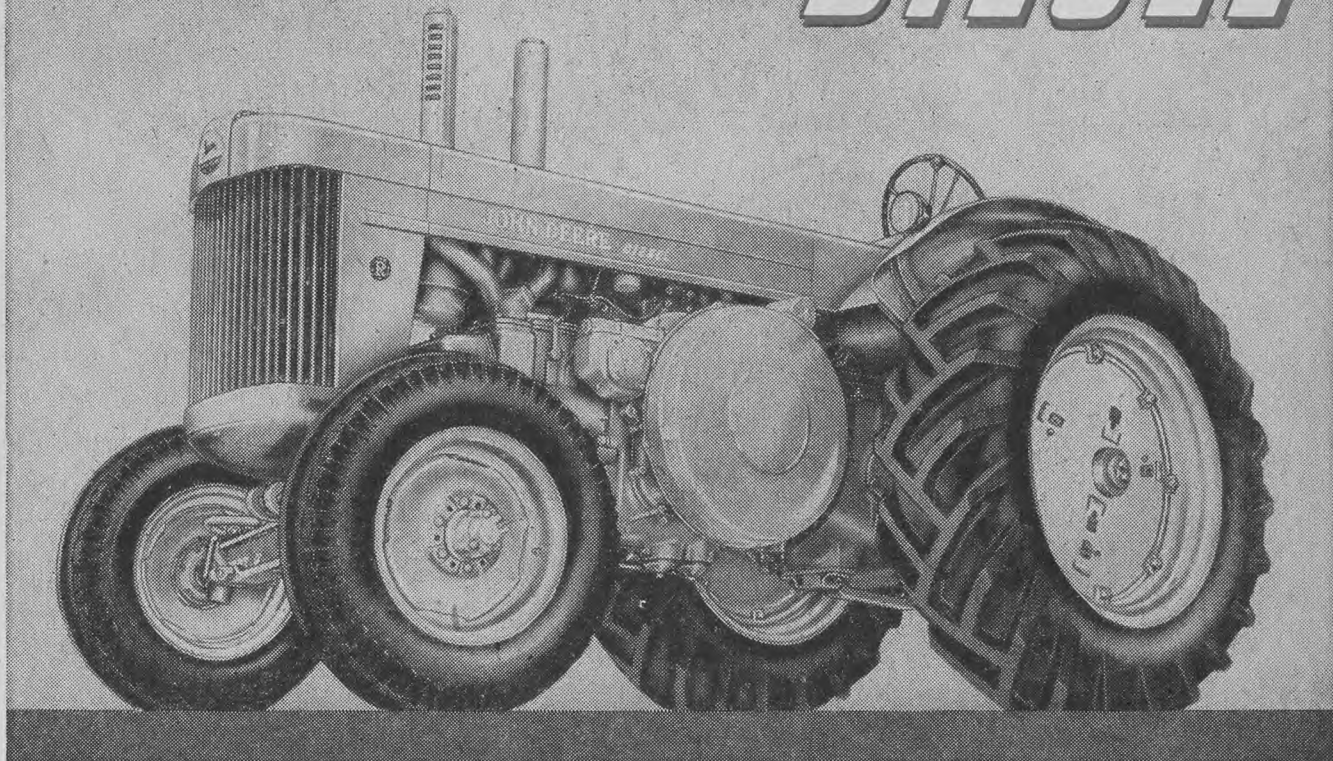
There is much to be said for large breeding centres. They do have their drawbacks, but it is my opinion that they are necessary if service is to be provided which gives a steady, satisfactory level of conception. They will require volume in cow numbers to pay for rigid bull selection, good handling facilities, and well-trained technicians at the laboratory and in the country.

As for a practical answer to the question with which this article began, I would say "yes", provided you have the following conditions: (1) a province which supports an intensive agriculture with a well-developed dairy industry; (2) a province with several communities, each of which can breed 1,200 to 2,000 dairy cows per year by enrolling not over 25 per cent of the total number of cows in the area; (3) communities devoted fairly solidly to dairying, with good roads and well served with telephones; and (4) communities where the people are co-operative and have a genuine desire to improve their dairy cattle.

In the more highly developed areas in the U.S. I found that only 10 to 20 per cent of the available cows were being bred artificially. This indicates quite forcibly that agricultural areas devoted largely to grain growing and mixed farming on an extensive scale present both economic and technical problems that will be difficult to overcome.

(W. H. T. Mead is supervisor of livestock breeding associations for the province of Alberta, at the School of Agriculture, Olds, Alta.)

## Meet the John Deere **DIESEL**



**Y**OU'VE heard about this great new tractor. Many of you have seen it on trial runs throughout the country where it passed every test with flying colors. Now, it's in production, and what a tractor it is!

A "heavyweight" among wheel types, the Model "R" has the knockout punch to whip those big jobs in a hurry—the stamina to slug it out continuously under heavy loads in hard, grueling conditions with fewer time-outs for adjustment and repair.

Naturally, you expect greater fuel economy from a Diesel-type engine but you'll be surprised how much farther your fuel dollar goes in the Model "R." Equally important, maintenance expense is bound to be less because the Model "R" is a *two-cylinder* tractor—with half the pistons, bearings, injectors, etc., required in other wheel-type Diesel tractor engines . . . with remaining parts built correspondingly heavier, stronger. This means less wear, greater freedom from trouble . . . fewer, lower repair bills.

In modern design, the "R" is a stand-out. It has the famous John Deere Hydraulic Powr-Trol for effortless operation

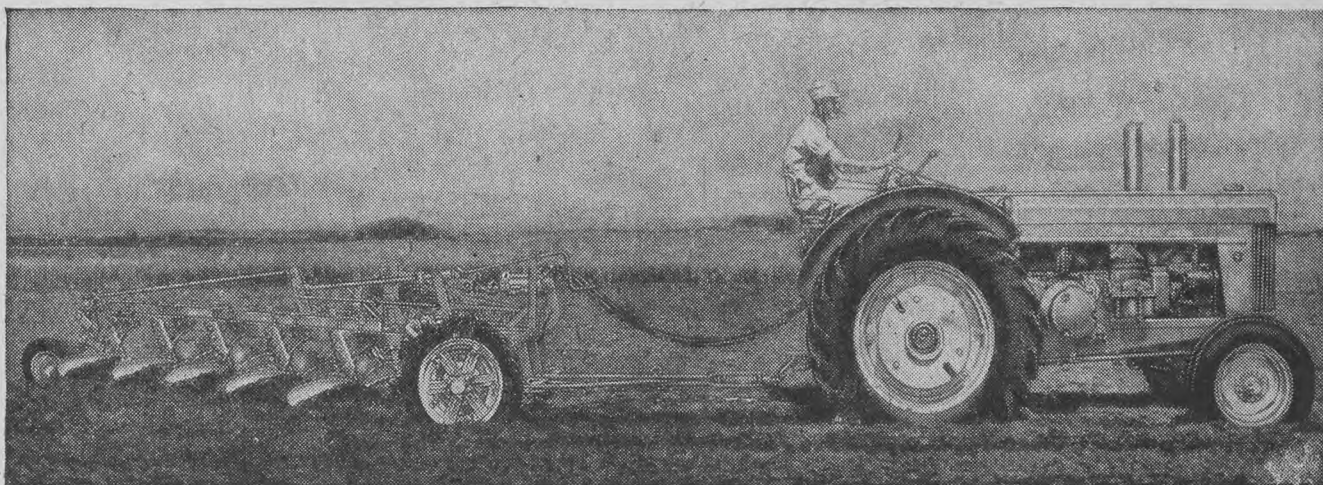
of heavy implements. Both Powr-Trol and the power shaft are controlled by an *independent clutch for continuous operation* when desired. There's a speed for every job. An auxiliary engine provides instant starting.

Comfortable seat . . . roomy, step-up platform . . . unobstructed view . . . convenient controls . . . foot-operated differential brakes . . . balanced weight with a highly-efficient steering mechanism—all contribute to an extreme ease of handling that's comparable to smaller tractors.

From drawing board to final production, the new Model "R" represents 12 years of designing, developing, and testing under the most severe conditions! It's a tractor you can buy with confidence, own with growing satisfaction through the years ahead.

From every angle, the Model "R" is the new leader in its field. Here at last is a really simple, easy-to-understand Diesel tractor that will provide the complete answer to your big-power needs! Make arrangements with your John Deere dealer to see it at your earliest opportunity.

**JOHN DEERE**  
**MODEL R DIESEL**





**NOW—use the new  
seed disinfectant**

**"CERESAN" M**



**No Objectionable Odor**

**for  
HIGHER YIELDS  
BETTER STANDS**

"Ceresan" M is low-cost insurance against profit-stealing smuts, seedling blight and root rot. "Ceresan" M gives two-way protection; kills smut on seed and protects against soil-borne diseases—but does not weaken germination. Yes, for only 3¢ to 4¢ per acre, "Ceresan" M gives you higher yields, cleaner grain... real profit-making crop insurance.

**Easy to use . . . Effective . . . Costs Little**

"Ceresan" M makes seed treating easy and convenient, too. "Ceresan" M has no objectionable odor, and you can treat seed up to six months before planting time—have it stored and ready for seeding. (Seed should be treated at least 24 hours before seeding.)

**Protect your crop . . . increase your profits**

This Year, and every year, protect your crop and increase your profits by treating your seed with "Ceresan" M. Available at your local farm supply store.

"Ceresan" M is a new mercurial seed disinfectant replacing the well-known "Ceresan". It is equally effective, with the added advantage of being free from objectionable odor.

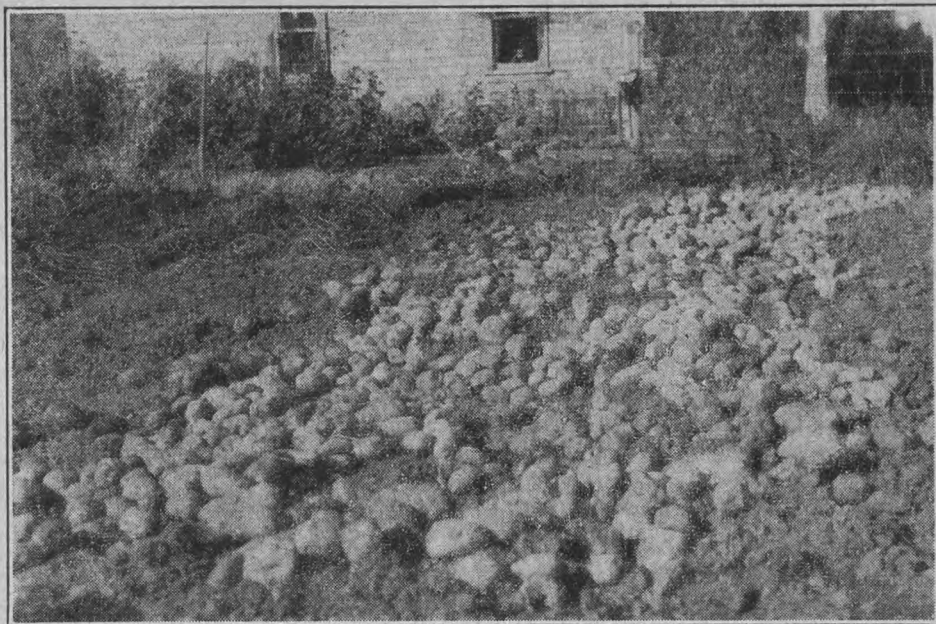
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**Seed Disinfectants**

**FIELD**



*This picture from Vanderhoof, B.C. (between Prince George and Prince Rupert), shows part of about 2,700 pounds of potatoes grown by A. J. Blackwell on a plot 26 feet by 80 feet.*

**A Head Start for Potatoes**

IT isn't necessarily the man who plants his seed-potatoes first in the spring who sells the early potatoes. We always sell early July potatoes to the local stores and yet we never are in any haste to plant them in the spring nor do we worry if the season is a bit backward. Yes—there is a secret behind all this. Let me tell you a few things about potatoes—early potatoes.

First of all, there is no sense in planting potatoes while the earth is still cold. The potato sprouts won't grow in the dark cold earth, and, furthermore, the seed will probably rot and be a loss. One just cannot rush the season, but one can overtake it quite successfully by being prepared.

We place lumber or packing boxes, covered with old bags, on the south side of the implement shed each spring. We spread out seed potatoes on these in the sun and let them sprout. They develop good strong stocky green sprouts in the daily warmth. You must keep the animals and hens away from the potatoes, of course, in the daytime. In the evening we usually throw some bags or a canvas over them to protect the seed from chills.

We never sow the seed potatoes until the ground is warm, often weeks later than the neighbors. Nevertheless, they often wait three or four weeks for theirs to get enough warmth to sprout while ours have heavy, strong, green sprouts when planted and they come right ahead. We cut them up, as usual, when ready to plant. No, ordinary handling doesn't injure the strong healthy sprouts at all.

We have used this method with success for many years and wouldn't grow potatoes any other way, for it never fails. One particularly wet spring we couldn't plant potatoes until late June and very few were harvested here. Nonetheless our sun-sprouted seed produced a fine crop that autumn. Ordinarily, though, our potatoes are ready for use in mid-summer and many an extra dollar they've earned by being early. One must beat the weather somehow in a northern clime. This is our method.—Mrs. Max R. Smith, Powassan, Ont.

**Beet Harvesters In Manitoba**

IN Manitoba beet fields the use of mechanical beet harvesting machinery has increased in recent years.

Cost figures have been maintained on some farms particularly in the Winkler area, where it was thought that the operating conditions were more or less representative. The results seem to indicate that the cost of mechanical harvesting is economical and money-saving on each of the farms costed, although the actual cost per ton of beets harvested by this means varied from \$1.70 to \$2.49.

The machines were not individually owned but were brought into the district by the sugar beet company. Though the acreage in beets per farm was not a particular factor, there was, however, a direct relationship between the average yield of beets per acre and the average harvesting cost per ton. On one farm with 47 acres of beets yielding 10.8 tons per acre, 510 tons were harvested at a cost of \$1.70 per ton. On another farm where 67 acres were harvested yielding 6.4 tons per acre, it cost \$2.49 per ton to harvest a total of 432 tons. On two other farms where the yield was nine tons per acre, the cost was \$2.06 per ton. The significant difference lies, perhaps, in the fact that on the low cost farm it took 14 days to harvest 510 tons while on the high cost farm it required 24 days to harvest 432 tons. In total dollars this meant a total cost of \$214 more to harvest the 432 tons than it cost to take off 510 tons.

**Straw Cutters On Combines**

I WAS very pleased to read in The Country Guide for January a letter from a reader in Alberta advocating the use of straw cutters on combines.

My experience has been identical with that of Mr. Robinson, except that I have not tried to interest any manufacturers in the idea. They invariably wait until the need for a new type of machine forces a few ingenious farmers to develop something suitable, before announcing their invention of it. The need for some such attachment is too real and too urgent to delay any longer.

If you could supply us with clear and sound information on the principles and construction of the straw cutters, which I understand are used on stationary threshers in many parts of the world, some of us might be able to make our own. That would be a real help in soil conservation and in a few generations might mean the dif-



ference between grain and cactus as our main crop.—J. W. Twilley, Man.

**Editor's Note:** This problem has often been discussed by farmers, manufacturers and agricultural engineers, but as far as we know no satisfactory solution has yet been found. One difficulty is that a straw cutting attachment at the tail of the combine would have to be well supported on rigid braces, strong enough to carry the weight and stand the vibration, without placing extensive strain on the combine frame. Another difficulty involves the source and the amount of power. If the cost of installation were not too high, it would prove practical on farms with heavy soil and rank stands of straw. Many operators are now removing straw from combine fields with pick-up balers, or hay sweeps and as this practice becomes more general the need for a straw cutter will decrease. We, also, would be pleased to hear of any cutting attachment now being used, or of any plans to build one.

### Crop Rotations In Manitoba

**R**OTATIONS have not been practiced in western Canada as much as they might have been. This is changing to some extent because of the need to maintain soil fertility and fibre and to supply a greater diversity of markets in order to stabilize farm income.

For the past 11 years a "combination rotation" has been under test at the Dominion Reclamation Station, Melita, Manitoba. The rotation occupies five fields. A four-year rotation is used, summerfallow or breaking in the first year, wheat nursing sweet clover in the second, sweet clover hay broken up in the fall in the third, and wheat in the fourth year. For the following four years the field is left seeded to a brome and alfalfa mixture.

This rotation has proven satisfactory at the Melita Station—(the average annual rainfall over the 11-year test period was 20.73 inches; the soil is a Souris light, fine, sandy loam). It is particularly suited to mixed farming conditions where cattle are raised. It helps to maintain soil fibre and organic matter and permits diversity of production on the farm.

Another eight-year rotation that has been giving good results in Manitoba follows the sequence fallow, grain, grain seeded to hay, hay, pasture, breaking, grain, grain. This means that half the total acreage is in grain every year, and one-eighth each in hay, pasture, stubble fallow and sod fallow.

This rotation also requires livestock on the farm to utilize the hay and pasture. In order to reduce cross fences it is useful to pair pasture and fallow, grain and sod breaking, hay and grain and the final two grain fields.

A practical objection to both of these rotations, especially in dry areas, is the difficulty of getting a good catch of the forage seed. In wet years this is less of a problem. If good stands can be gained they serve to control weeds, especially wild oats, and to restore fibre to the soil.

### Compana Barley

**I**N southeastern Alberta and southwestern Saskatchewan, the barley variety Compana has recently done very well in comparison with other varieties. It is grown extensively on

dry-land Montana farms and was licensed for sale as seed in Canada only in 1948. It is recommended only for the Alberta dry area and in tests conducted by the Dominion Experimental Station at Lethbridge and Swift Current, Compana has outyielded Titan, a comparatively new variety introduced by the University of Alberta, in the very dry areas of the bound soil zone.

Under dry conditions in southwestern Alberta, Compana outyields Glacier, though when moisture conditions are relatively good, the position of the two varieties is reversed. Compana, however, is expected to be higher in bushel weight and presents less hull, as well as crushing more easily and showing much more resistance to loose smut. Compana also can be straight-combined without much danger of loss from wind damage, because it does not scatter or lose its heads readily. Owing to its weak straw it is easily lodged and it is moderately susceptible to covered smut.

### Use Registered Seed

**T**HE shortage of dollars in Europe is having an adverse effect on the market for Canadian farm products and is costing farmers money. Shrewd farmers can make some profit out of this unhappy situation. The dollar famine had led to a decreased European demand for Canadian registered seed with the result that the price for this good seed is very little above the price of market grain. The Dominion Experimental Station, Beaverlodge, Alta., estimates that a farmer who uses good registered seed rather than poor, scrub seed can add 10 per cent to his fall grain cheques. The present is a good time to sell poor seed in the elevator and buy registered seed, as the switch will not cost much money.

What, then, is registered seed?

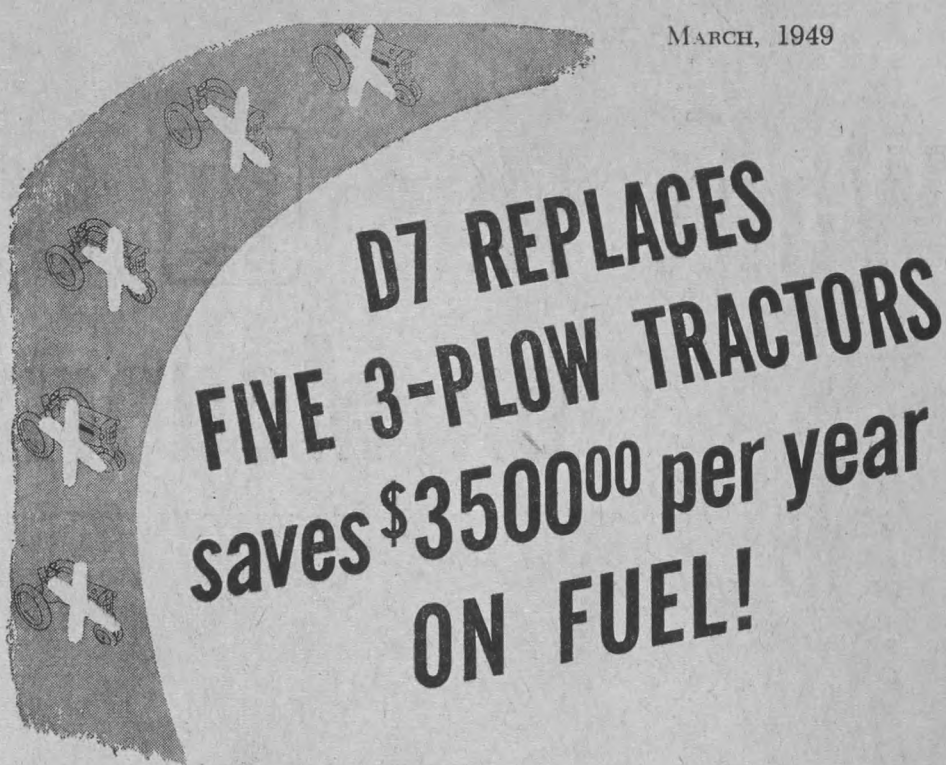
Registered number one must, according to the Seeds Act of Canada, be free of noxious weeds, but is allowed to contain three other weed seeds per pound, one seed of other crops in two pounds and one seed of other distinguishable varieties per pound. Registered seed means a guarantee of high variety purity, soundness, and freedom from disease, as well as freedom from weed seeds.

Many farmers insist on a pedigreed sire for their herds, yet use whatever grain happens to be in the granary for seed. Registered seed is pedigreed seed. It traces directly from registered, foundation or elite seed stock. If a farmer uses a purebred sire, consistency as well as good business suggests that he should also use registered seed on his fields.

### Wells That Last

**W**HEREVER there is a good supply of wholesome water near the surface, wells that are dug by hand, or bored, are preferred to the deep, expensive ones made by drilling. The only drawback is that the wooden cribbings decay, necessitating their continual replacement and, less frequently, the digging of a new well altogether. At present, galvanized steel cribbing is practically unobtainable, but a wooden cribbed well can be made to last by the following inexpensive method.

In the first place, dig a round well, as such a hole is not half as liable to cave as a square one. In the second place, make your hole one foot larger



- The "Caterpillar" Diesel D7 Tractor pulling a 46-foot hitch of heavy-duty, spring-shank cultivators replaces *five* 3-pow spark-ignition tractors. It's thoroughly tilling over 20 acres per hour, on only 5 gallons of Diesel fuel per hour!

The 80-horsepower machine on sure-treading tracks saves \$3500.00 per year on fuel alone—compared to the spark-ignition power it makes obsolete.

Moreover, this tractor's generous drawbar pull saves its grain-grower owner the wages of 8 operators, counting double-shift work through the busy season. Such savings soon pile up!

That's the way it's going with any of the 5 world-proved sizes of "Caterpillar" Diesel Tractor (32 to 130 drawbar horsepower). The combination of all-soil, all-weather traction teams with a heavy-duty "Caterpillar" Diesel Engine that doesn't know how to quit pulling. That means big-hitch farming for big-time profits!

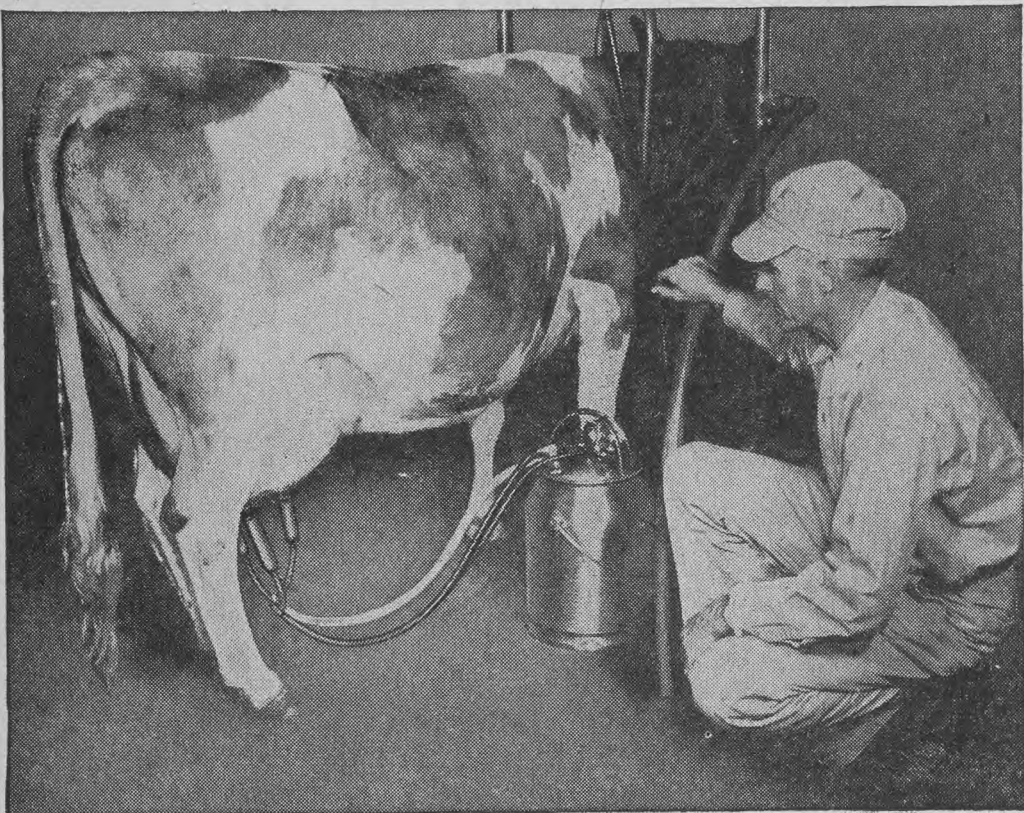
Canadians whose "Caterpillar" Diesel Tractors have "bought themselves," in fuel dollars saved alone, know what an advantage they command!

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# What This Symbol Means... on Modern Dairy Equipment



## MEANS: Fast, Efficient Milkers

Your cows should be milked in a fast, gentle manner similar to that of a sucking calf. An IH milker assures you of just such milking efficiency. And its stainless steel construction means smooth, easy-to-clean surfaces that lead to the production of cleaner, better milk and a surprisingly low bacteria count.



## MEANS: Close-Skimming Separators

The IH symbol on your cream separator means skimming efficiency that gets all the cream. It means ability to obtain cream of any butterfat test desired, up to 65 per cent. It means that milk touches only highly-polished, easy-to-keep-sanitary, stainless steel surfaces — no footholds for bacteria in an IH cream separator!



## MEANS: Quick-Chilling Milk Coolers

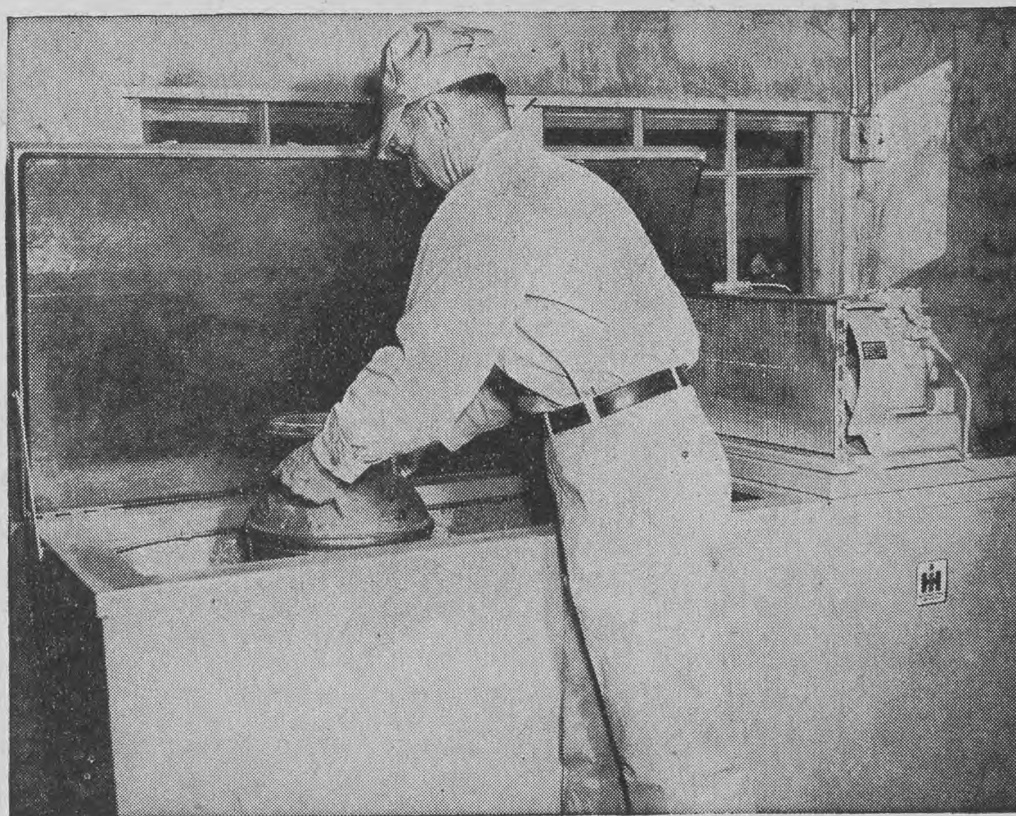
An IH milk cooler builds an icebank  $3\frac{1}{2}$  inches thick. This stored cold teams with pneumatically-agitated water to insure fast, low-cost cooling. The cooler chills its rated can capacity below 50°F. in less than one hour, twice every 24 hours. And it uses less than one KW hour of current per 8-gal. can of milk cooled.

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in diameter than cribbing will be. If you want a 30-inch well, dig your hole 3½ feet across and for a three-foot well, dig your hole four feet. Before you finish digging down to the water supply, have several loads of small stones up to five inches in diameter on hand. Bevelled material is far superior to one-inch boards and internal rings for a box. When the cribbing is in and centred, start dropping the stones in all around. They will wedge into each other and form a ring of considerable strength in themselves.

When you have your rock fill within eight feet from the top, it is a good idea to start using a one to five mixture of concrete along with the cobble stones. Build this up around the cribbing half a foot or more above the surface of the ground. This concrete seals off any polluted surface water and protects the top of the well where dry rot might set in, due to the presence of both air and moisture. As the rest of the wood does not touch earth anywhere, you have a well that is safe from cave-ins for a normal human lifetime.—Robert J. Roder, Alberta.

### Feed Reserve For The Range

A CRITICAL point in range management may very well be the amount of hay put up to carry livestock through difficult periods. Severe storms occasionally prevent cattle from finding feed that may be available in abundance on the range.

The Dominion Range Experiment Station at Manyberries, Alberta, recently compared the three common types of range hay which, in addition to smaller amount of alfalfa or oat hay sometimes available, constitutes the major portion of any feed reserve that can be used.

Stockmen, it is said, have long considered blue joint hay as the standard of excellence. Native to the prairies, it was always possible to harvest it in the years before any of the major forage crops were grown. Nearly all classes of livestock can use it to advantage and it makes a heavy, palatable feed though not as good as alfalfa or oat hay. It seems to have the ability to winter calves so that after a summer on pasture they are as good as other lots by fall. Calves also appear to shrink very little when carried through a cold spell on blue joint.

In feeding value, crested wheat grass compares very favorably with blue joint. As a winter feed for calves it seems to be equally good and just as palatable.

Round-stem slough hay, while well worth harvesting and able to carry calves through the winter fairly successfully, is generally regarded as an inferior hay. Because of its hollow stems, it is light and bulky. Also, because there is no danger of it heating, it should be cut when quite green and immediately stacked. Put up in this way the hay is quite palatable and relished by calves, which can take eight or 10 pounds per day as a maintenance ration.

Because of the critical importance, on occasions, of ample feed reserves, early planning for such a reserve is of the highest importance.

### Make Use Of Manure

NOW that the era of profligate exploitation of the natural fertility of prairie soils is about over, farmers, may, and should begin to think more

seriously of utilizing all available supplies of barnyard manure as fully as possible. It is not uncommon to see great piles of undistributed manure along the backs of farm buildings. Instead of being returned to the soil as partial repayment of fertility withdrawn by crops and animals, they are treated like refuse and wasted.

Properly regarded, barnyard manure is a part of the return on money invested in livestock, which, unless re-invested in the soil, represents a loss as surely as if one planted seed and secured no crop.

All of the return from barnyard manure is not made the first year. At Brandon 12 tons per acre applied on a relatively unfertile light soil in the summerfallow year of a summerfallow wheat, corn and wheat rotation, increased the yield of the summerfallow wheat by 4.5 bushels per acre; of corn in the third year of the rotation, by about two-thirds of a ton of green corn per acre; and of wheat in the fourth year of the rotation by three bushels per acre. Applying manure in the spring increased wheat yields 6.5 bushels per acre, as compared with four bushels per acre after winter applications.

Six tons per acre was found as effective in increasing the yield of the first fallowing crop as 18 tons, but the heavier application shows up in succeeding years for a much longer time than does the lighter. Experience with the application of 15 to 20 tons per acre of barnyard manure on range pastures reasonably close to buildings also bears this out. The Manyberries Station in Alberta reports, "that even after 12 years from the time of the original application the grass is yielding three to four times as much as untreated flats."

Old manure piles, unused and deteriorating, are a sign of a continuing, exploitive, impermanent and inefficient agriculture. The soil is a diminishing asset to the extent that fertility is not returned to it in compensation for the crops and livestock removed from the farm.

### Cost Of Pick-Up Baling

IT cost \$2.57 per ton to bale 213 tons of hay, chiefly brome and alfalfa, on the Dominion Experimental Farm, Brandon, and Dominion Reclamation Station, Melita, in 1948. The pick-up baler was in operation for 105 hours at a total cost of \$5.22 per hour of operation for the tractor and baler. In addition to these cost figures, there were also costs of mowing, raking, stacking and handling the bales.

Brandon officials made no comparative cost study last year as between stacking loose hay, and baling, but they believe the over-all cost of baling would be a little higher for the amount of hay put up. On the other hand, the quality of baled hay is generally better and loss in the stack is reduced, while the bales are more easily as well as more economically handled from the field. Another definite advantage which is difficult to express in dollars and cents is that where a baler is justified because of the amount of hay put up, it is also useful for picking up straw from a combined field. In certain areas where the amount of hay on individual farms is too small to warrant individual ownership, custom baling may be more desirable or co-operative ownership of the outfit.

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## Arctic Farmer

Continued from page 13

A couple of years ago Tom Anoluk, the biggest trapper in the district, caught 86 mink and 68 lynx. At \$50 apiece for these, in addition to what he got for squirrels, muskrats and foxes, he made plenty of money.

Boats, of course, are essential and they need big and good boats. Coal costs \$100 a ton and expenses at this rate mean either money or credit. Mr. Hogan says the free traders have been bad for the Eskimo since they were allowed into the Arctic. The Hudson's Bay Company brought in nothing but essentials and when the Eskimo needed credit, he got it. The free traders brought in gadgets, gewgaws and jimcracks and when the Eskimo's cash ran out they shut up shop and shut off the credit as well.

It used to be that the Eskimo wanted credit only to get a grub-stake—when he had more money than usual he didn't work so hard. Now his money goes like water. "I don't think I have ever seen an Eskimo wear a pair of pants with a patch on," said Mr. Hogan. "They will buy \$12 blue serge pants when \$3 blue jeans would wear much better. Not only that, they will buy a dozen pair of blue serge pants at once, and if a pair gets dirty or needs a patch they throw it away and use another. I have met young Hunkies with a wrist watch on each wrist."

NEVERTHELESS, though the Eskimo seems to us entirely irresponsible, and quite a happy-go-lucky individual, he works well under direction. His mechanical sense seems to be strong and he makes a good master mechanic on a boat. In Alaska, there is a law that a white man must run the reindeer. This law operates on the principle that the Eskimo needs the white man behind him to give the necessary orders. Mr. Hogan told me that in Nome, for example, though the city is 50 years old, the only example of an Eskimo running his own business is one man who operates a small laundry.

The problem is to very gradually transform some of the Eskimos from independent hunters to reindeer farmers, men who will take 200 or 300 head of reindeer, run them for a year, kill off the surplus, sell it and thus make a living. This however, will be a very slow process, so much so that for a long time to come, the gov-

ernment must in some way prepare the reindeer as reserve food for the Arctic population and more or less maintain the Eskimo, in the final analysis, as wards of the people.

Mr. Hogan had some interesting tales about the Eskimo dogs, or huskies. Dog teams at Aklavik travel in single file, as contrasted with the Nome hitch where collars and double-trees are used, the dogs travelling in two pairs, with one in the lead. The standard Aklavik team is six, but Mr. Hogan likes five and prefers to raise them himself. He says that a good leader will always take you home, and if you raise your own dogs they will not leave you if turned loose, unless they are too close to home. For this reason and also because they are bad fighters, Eskimo dogs are tied. When they fight they go for the joint in the front paw and the young dogs get after the old ones on any excuse. The dog so bitten is spoiled for the trail.

The Indian, we learned, treats his dogs worse than the Eskimo, the worst evil of all being to leave them for several days without water. There is a law that dogs must be kept tied around any settlement, but there is no law to prevent the huskies from howling. "A hundred dogs may be sleeping," said Mr. Hogan, "but one will stick his nose right up in the air, and every dog in the lot will be howling before the first one stops. When they stop howling all will stop at the same instant."

Huskies are also very strong, and at Aklavik they are larger than around Nome, Alaska. An especially good dog will bring \$75, but the basic price is three for \$100. Mr. Hogan had one team of five, which, in the hands of a comparatively green handler, hauled eight reindeer carcasses with hide and offals in—about 1,200 pounds—which was 240 pounds per dog in addition to the gear.

REINDEER will normally double in numbers in three years. Progress is made in improving size and quality of the Aklavik herds by means of selection. It is also planned to bring in some reindeer bulls from Alaska, since the pasture there is better and the reindeer develop a little earlier and attain a somewhat greater size. A curious fact is that the females lose their horns exactly seven days after calving. Reindeer must be herded, because there are plenty of wolves on the ranges and the reindeer are exactly like the caribou in that they know of no method of defence except to run.



Wives and children of Eskimo reindeer herders.



The main herd is pastured on Richard's Island, along the shore of Beaufort Sea. About March 25 they are taken across to the island on the ice. Mr. Hogan said that if they are to travel on the ice after April 14, the ice must be 20 inches in thickness. In September they come back to the mainland for the winter, crossing the half-mile distance by swimming high out of the water. Reindeer can if necessary, he says, swim for a mile.

There are no other domestic farm animals in Aklavik, except one cow. Some years ago Dr. Livingston brought down some cows from "outside," but when I talked to Mr. Hogan, only one was left. Last fall the man who bought Dr. Livingston's farm brought in a bull and bred the cow, then killed the bull and got a big price for the meat. If meat were shipped to Aklavik from outside it would cost close to \$1.00 a pound—perhaps more now. The government sells the reindeer meat cheaply and until recently, at least, the meat was 15 cents a pound locally. The animals are killed, skinned and dressed and until disposed of are frozen and stacked in the open, covered, as I recall it, by a tarpaulin.

## The Patient

**S**HE was a wild, black critter. We had just driven the herd in from the range, for fall feeding, when we noticed this cow with the nose full of newly gathered porcupine quills.

Now what could one do with an animal in a predicament like that, we wondered. A beast with the fear of a chute as well as the same fear of man born right in her seemingly. She couldn't live, and wasn't fat enough to butcher. Later she would take on flesh and become valuable, but for this greater certainty that her nose would turn into a festering, hideous agony, preventing her from getting within even licking distance of food.

We aren't regular cow people; we don't hog-tie and brand and all that. So it was different.

We put her in the corral, then stood watching, hoping that time, just by our supervision, would eventually work out something. But not a quarter of an inch of one quill worked out.

We got busy with a rope and somehow chased her headfirst into the noose. Snubbed her close and closer to a post. Took a long-arm reach with a pair of pliers at that pin-cushion nose.

Cr-a-sh! She reared straight up, pawing, pulling everything loose, breaking the rope. We didn't have any stronger paraphernalia, so we stood and thought again.

She stood too, wild-eyed and glowering, and kind of piteous. Al didn't take long. He maneuvered along up to her, pliers well out front, expecting her to break one way or another. Since she didn't he kept right on. And on. Their eyes locked, she stiffened and stood. Al got a hold of one of those quills, and pulled, so gently but firmly, all so quietly—I could hardly believe it. She still stood all braced, but somehow trusting.

Yes sir, without shifting a foot Al plucked out every one of those torturing needles, just like that, while the black cow stood!—Alicia Stein, Rolla, B.C.

# Many Farmers Now Making Own Repairs

## New Portable Oxy-Acetylene Welding and Cutting Outfit Also Used to Make Special Equipment

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First hand information has been obtained from representative farmers who have kept careful records. These indicate that a "Metalmaster" Outfit can pay for itself in a season. There is actually one instance where the outfit paid for itself several times over in a single day. The owner had his binder break down just as he was in the middle of harvesting a stand of wheat, with a storm in the offing. He made necessary on-the-spot repairs, himself, and figures he saved a thousand dollars.

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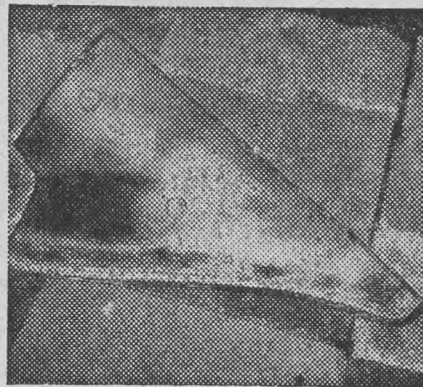


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## Jim Brown's Story

Continued from page 9

he reproduced the same ailment he had seen back on the farm of its origin. An analysis of the forage disclosed a lack of phosphorus. Thus was established for the first time the existence of a phosphorus deficient area on this continent.

Tyler and Eckles provided the clue to our livestock problem in the Interlake. Their remedy, bone meal, has provided a suitable one for us.

Occasionally we find farmers living between the lakes who, knowing they are in a mineral deficient area, feed lime to make up for it. Nothing could be worse. It throws a ration which is already out of lime-phosphorus balance still further out. It aggravates their trouble.

I had a striking first-hand experience of that. A farmer whom I had known very well asked me to inspect his herd in which he had already had ten deaths. By the time I got there two more fatalities had occurred. I did not see the main herd which was out at pasture, but I did see about half a dozen old cows in the barnyard moving about stiffly, in obvious pain.

It was a typical case of phosphorus deficiency. In reply to my question as to what was being done about it, the farmer stated that he was feeding lime as he had been advised to do locally. After all the information we had put out, I was more than a little annoyed. Some of the cows in that herd were so ill that their appetites were completely gone. We could not even coax them to eat a little bone meal. We had to resort to injections of sodium hypophosphite as emergency treatment.

FOR some time now we have been receiving complaints from the Swan River district in northern Manitoba about the lack of thrift in their cattle. The symptoms suggested mineral deficiency but they were not just identical with what we had seen in the Interlake. Having read a great deal about cobalt deficiency we prescribed cobalt salt. To our disappointment, it did no good.

Complaints continued to come in. The ailing cattle were affected with severe diarrhea, thin, bubbly, dark in color, and containing bits of undigested matter. Their coats were rough and staring. Often patches of hair were shed revealing rough, unhealthy hides. In some animals there was a change in coat color; red animals faded; black ones turned grey; white ones became a dirty yellow. There was sometimes a marked stiffness in the limbs; usually a loss of weight; sometimes severe emaciation, the affected animals doing little other than drinking water and licking salt. Younger animals suffered more severely. The mortality loss in calves ran to 30 per cent in the animals reported.

I went up to Swan River valley one summer to look at the stock. To my surprise the whole cattle population seemed to be in about as good health as those in other parts of the province. When I questioned one of the principal complainants of the year before, he said, "Oh well, you know, it's like that. In the dry years we don't have

any trouble. When we have a wet spring we sometimes have a bit of it, then when it turns hot and dry, it disappears."

It was a clue. It stirred memories. I am fairly familiar with the literature of animal nutrition, and I remembered having read an account of similar trouble in Somersetshire, England. In that case the trouble was traced to a surplus of molybdenum in the soil. This is one of the trace elements found almost everywhere, but only in minute quantities as a rule. The soil in this part of Somerset seemed to be impregnated with it, and plants grown thereon had an unusually high molybdenum content.

Molybdenum seems to be tied to copper in animal nutrition. An excess of molybdenum prevents the proper assimilation of the required amount of copper. In the Somerset experience the affected cattle were fed copper sulphate and recovered. We tried it in the Swan River valley. The results were immediate and remarkable. Within three days the scouring stopped, appetites increased, the milk flow returned, and the cattle commenced to gain in weight. We were giving two grams of copper sulphate daily as a drench. No animals showed any signs of copper poisoning although we kept the treatment up in some cases for eight weeks.

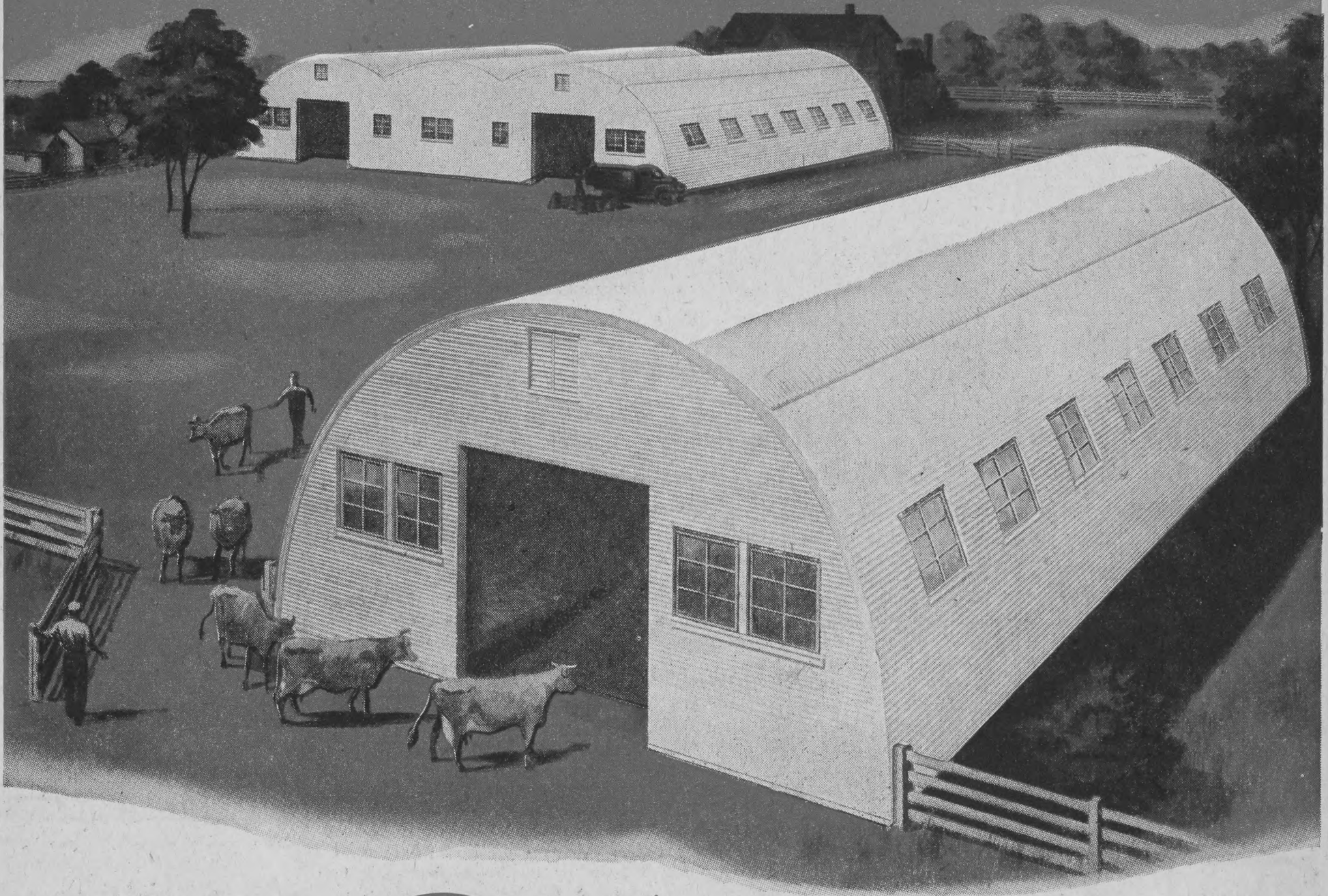
I SAY we, because we put one of our senior students, Arnold Edie of Dugald, Manitoba, on the case, and most of the work was his. His report, a neat and complete piece of technical work, will soon be published as a professional paper in Scientific Agriculture.

Our results in the valley were so striking that we duplicated it on the college farm using Peterson's method of artificially inducing the disease by feeding a daily dose of about five grams of sodium molybdate. Five Holstein heifers from seven to twenty-one months in age were selected for the experiment. Their reactions varied in severity, but they confirmed our results in the Swan River valley. There is now no doubt that the cause of the trouble is an excess of molybdenum in their soils. The technical work has not yet been completed. We have yet to satisfy ourselves as to dosages and other details. But the back of the problem has been broken. A cheap and practical remedy is in sight for what at first appeared to be a baffling malady.

We recognize that immediate interest in this discovery is limited because it applies to only one small locality. Only 25 sections are affected, and there is some ground even within that area which is not tainted. It does, however, open up a wide prospect. Molybdenum poisoning had never before been suspected on the prairies. There may be other areas where stock raisers are not extracting as much profit from their operations as they should because of other soil defects. There may be other areas, small and not so small, where trace elements may be missing, or where they may be present in excess. We do not know. The Swan River discovery opens a new door. It is, therefore, an important event in the evolution of agricultural science in western Canada.



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We will mail you our Service Bulletins, descriptive folder, illustration of anatomy of the hen in natural color, prices and other educational literature neatly filed in loose leaf folder for future reference. Never before has the chick buyer had an opportunity of getting this information. Send for it now! Read it and decide for yourself.

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1503 Pacific Highway,  
Box 860 New Westminster, B.C.

THE CHICKS WHICH GIVE RESULTS

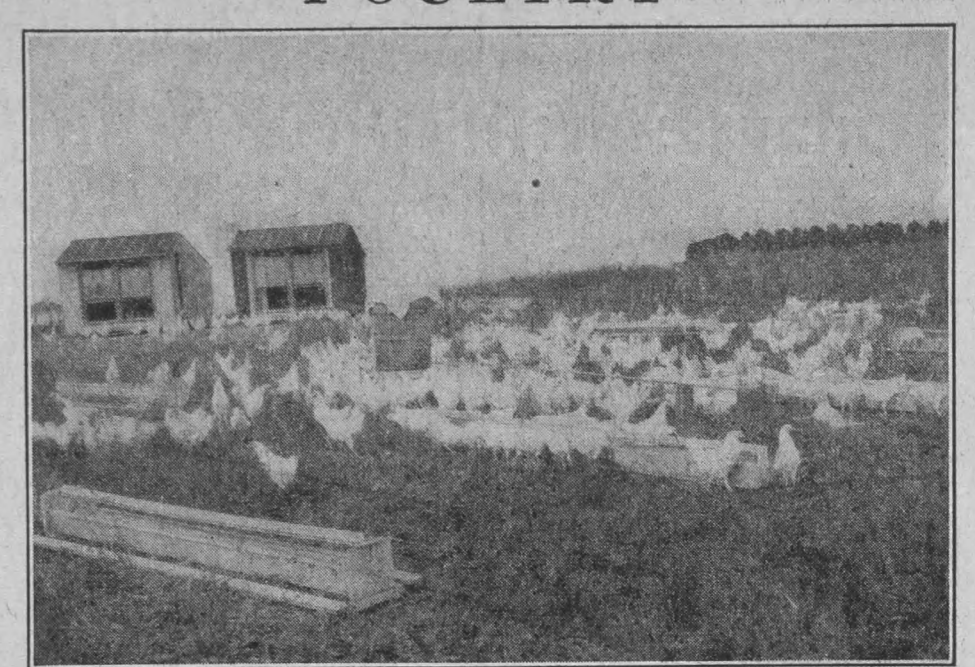
Have been raised by thousands of Western Canada poultrymen for nearly 30 years. The following breeds will be available: White Leghorns, New Hampshires, R.I. Reds, Barred Rocks, Light Sussex, Black Australorps, Leghorn-Hampshire Cross and Austra-Whites. Write for price list and full particulars, and remember—

"IT'S RESULTS THAT COUNT"

**BROAD BREASTED BRONZE TURKEY POULTS.**

**Rump & Sendall**  
LTD.  
BOX 6, LANGLEY PRAIRIE, B.C.  
BOX 6, VERNON, B.C.

POULTRY



Four-month Leghorn pullets, belonging to Gerald Pelchat, Brooks, Alberta.

He's Building A Poultry Business

With five acres of land and a willingness to plan and work this young veteran has built up a profitable poultry business.

GERALD PELCHAT spent three years in the navy. Most of that time was spent conveying ships from Canada to the U.K. At the present his time is fully taken up in patrol duty of his large flock of Leghorn chickens. He is more concerned with hatchability and levels of production than with submarine warnings and making port in Londonderry.

He bought a small holding of five acres under the Veterans' Land Act on the outskirts of Brooks, Alta., and built a house on it. This was soon followed by poultry houses and the few buildings necessary to set up a poultry project.

In 1947 he bought 1,000 mixed Leghorn day-old chicks at a cost of \$160. Within three months he sold 475 friers. The government bander culled out 32 of the pullets that remained and Pelchat himself culled out some more. The friers and the cull pullets sold well and when the pullets began to lay in the fall the flock was within \$190 of paying the cost of the chicks and the summer feed bill.

Mr. Pelchat bought R.O.P. roosters, and during the hatching season the local hatchery produced 15,000 chicks from his eggs. Hatchability on some lots ran as high as 86 per cent. The level of production has been satisfactory. It dropped to a low of 65 per cent in February, 1948, and has been as high as 85 per cent. This kind of success encouraged him to buy 1,200 Leghorn pullets, hatched from his own eggs in the hatchery, in the spring of 1948. He hopes to level off at a project consisting of 2,000 laying hens, planning to reach that level in 1949 or 1950.

Feeding is carefully managed. The basis of most of the rations used consists of commercial mixes. Chicks are fed chick starter and some grit for two months, and then gradually shifted to a growing mash. Some whole oats is mixed with the feed when the chicks are a month old and this is steadily increased until at four months the ration is half whole oats and half mash. In order to keep the pullets from laying before they are six months he will, if necessary, hold back on the mash and increase the oats. Cracked wheat,

hulled oats, and the like are used for scratch grains.

Can a producer make any money "playing around" with a few hundred pullets? Mr. Pelchat is expanding his business. The money for expanding largely comes from plowing back net returns from his flock. The 400 pullets that he kept from the 1,000 mixed chicks he bought in the spring of 1947 earned five dollars each, over and above the feed costs. "In one three months period in the hatching season I cleared over \$1,000 from 375 hens," stated the navy veteran.

Pelchat learned the rudiments of poultry husbandry on his father's farm before the war. He was interested in chickens so looked after the flock of 300-odd on the home place. During and since the war he had read pamphlets, bulletins and poultry magazines in a steady search for more knowledge and new ideas. Perhaps the most important thing of all is the careful record kept by himself and his wife. Any day you wish to call they can give you a precise statement of costs and returns on their poultry business since the day they began it.

Is Inbreeding Safe?

THE Experimental Station at Lethbridge reports that they have practised inbreeding for 15 years and, as a general statement, are prepared to say that the results are satisfactory. If care is used undesirable traits need not appear.

For experimental purposes different degrees of inbreeding have been used and records kept of fertility, hatchability of eggs and livability of the chicks up to three weeks of age. Mild, medium and high degrees of inbreeding were practised.

In 1948 the per cent fertility for mild, medium and high inbreeding was 90.5, 88.1 and 78.4 respectively. The per cent hatchability was 76.6, 68.6 and 61.4 and the per cent livability was 98.9, 97.4 and 94.3, both quoted in the order of mild, medium and high inbreeding. These results are typical of results gained for several years.

The first conclusion drawn is that a mild degree of inbreeding has not had

PRAIRIE QUALITY CHICKS

It takes March and April hatched pullets to be in full production of good sized eggs through September to December, the top price egg period. So order good chicks early. Backed by years of careful selection and hatched in modern Buckeye Streamliners operated in new air-conditioned hatchery, you can count on Prairie Quality Chicks being good.

R.O.P. Sired			Unsexed			Pullets		
100	50	25	100	50	25	100	50	25
17.25	9.10	4.80	White Leghorns	17.25	9.10	35.00	18.00	
35.00	18.00	9.25	New Hampshires	18.25	9.60	33.00	17.00	
4.00	2.50	1.50	Barred Rocks	18.25	9.60	33.00	17.00	
18.25	9.60	5.05	White Rocks	19.25	10.10	34.00	17.50	
33.00	17.00	8.75	Approved					
12.00	6.50	3.50	New Hampshires	16.75	8.85	30.00	15.50	
			White Rocks	18.25	9.60	33.00	17.00	
			Light Sussex	20.00	10.50			
			Ckls. per 100: Heavy's \$12; Leghorns \$4.					

Gtd. 100% live arr.; 96% acc. in pullets.

W. H. McLELLAN, Manager.

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TAYLOR-MADE Approved Chicks

Minorcas, \$17.75 per 100; Hampshires, \$16.75; Wyandottes, \$17.75; White Rocks, \$17.75; Orpingtons, \$19.75; Sussex, \$19.75.

**TAYLOR-MADE R.O.P. Sired Chicks**  
Leghorns, per 100, \$17.25; Barred Rocks, \$18.25; Hampshires, \$18.25; Wyandottes, \$19.75.  
Book Orders NOW. 100% Live Arrival.  
Pullet and Cockerel Prices on request.  
Oil Brooders—500-chick size \$17.95

**Alex. Taylor Hatchery**  
362 FURBY STREET WINNIPEG, MAN.

STEWART'S R.O.P. Sired CHICKS

AN INVESTMENT FOR MORE PROFITS

Stewart chicks are 100% R.O.P. sired. They are produced from some of the finest Pullorum tested flocks from Alberta and B.C. headed by R.O.P. males from trap-nested hens with records from 200 to 300 eggs per year. Chicks that will Live—Grow—Lay and Pay.

Specializing exclusively in R.O.P. Sired White Leghorns, Barred Rocks, Rhode Island Reds, New Hampshires, Light Sussex and Leghorn-Hampshire Crossbred Chicks.

Broad-Breasted Turkey Poults.  
Order Now For Early Delivery.

Write today for large illustrated catalog and prices.

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602C 12th Avenue West Calgary, Alta.

R.O.P. Sired

W. Leghorns, B. Rocks  
**APPROVED**  
New Hampshires,  
Cross Breeds  
**Order Chicks Early**

Write for our 1949 Price List.

**J. H. MUFFORD & SONS**  
Box G Milner, B.C.  
"The Firm of Over 40 Years Standing"



The most successful poultrymen

are those who start with chicks from high-producing stock. They can't afford to waste feed, time and money on inferior chicks — and neither can you. When you buy Top Notch chicks you buy high egg yield, that's why our customers report that Top Notch chicks give them lots of good-sized eggs with low hen-house mortality. Thousands of customers have learned from experience that Top Notch chicks are born with a bred-in-profit record and born of proved layers on both sides. Also 8 to 24-week-old pullets. Turkey poult from Government Approved Stock.

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**Top Notch Chick Sales**  
GUELPH, ONTARIO

WHEN WRITING TO ADVERTISERS PLEASE MENTION "THE GUIDE"



# How to TONE UP LIVESTOCK

## Feed PRATTS ANIMAL REGULATOR

### HERE'S WHY:

**First**—Pratts Animal Regulator contains an abundant supply of Vitamin "D" and "Trace Elements" (cobalt, iron, copper, manganese, etc.), essential minerals that aren't present in feed which is grown in "tired" soil. These mean healthier herds, extra dollars in your pocket.

**Secondly**—Pratts Animal Regulator is very cheap to feed regularly. Examples—for about 75c a year you can feed it continuously to a cow that averages 60 lbs. of milk a day; and for about 15c per animal you can feed Pratts Animal Regulator to a pig from weaning time until it weighs 200 lbs.

The cost is LOW... the return is HIGH in extra livestock health and value. So feed Pratts Animal Regulator... regularly. Made by a company with 76 years' experience.

Pratts DISEASE CHARTS are full of practical information about diseases of livestock, poultry, turkeys; These charts—and other useful Pratts literature—are available through your nearest Pratt Food dealer, or from us direct.

PRATT FOOD COMPANY OF CANADA LTD.  
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GIVE BEST RESULTS

## Tender, Aching Perspiring Feet

Amazing Relief in 5 Minutes  
Satisfaction or Money Back

Don't worry about how long you've been troubled or how many other preparations you have tried. Moone's Emerald Oil will help your painful aching feet and help keep them free from corn and callous troubles that you'll be able to go anywhere and do anything in absolute foot comfort. So dependable is Moone's Emerald Oil that thousands of bottles are sold every year.

a serious effect on the factors under consideration. In the case of medium inbreeding there is some evidence of slight deterioration. High inbreeding has had a noticeable effect, and indicates that there may be a practical limit to the degree of inbreeding to use.

The data accumulated indicates that continued mild inbreeding can be practised with safety. However, it must be realized that inbreeding without selection is no more desirable than any other system of breeding without selection. Great care was used in selecting for high performance in the characteristics under consideration.

### Hatchability In Turkey Eggs

**T**HE change in the western Canadian turkey industry that has resulted in an increased interest in the production of commercial turkey hatching eggs has posed new problems for the prairie turkey raiser.

One of these problems is the fact that the commercial hatching and sale of poults requires that some hatching eggs be produced much earlier in the season than has been the practise in the past. When early season egg production is contemplated it is necessary to give special attention to such factors as housing, artificial lights and proper nutrition.

If turkey hens are to be brought into laying early, comfortable housing is of special importance. There is evidence to indicate that low temperatures in the laying pens at mating time may impair fertility. Buildings which provide a uniform, moderate temperature are recommended. If the birds are totally confined they should be allowed 10 square feet of floor space per bird.

Early out of season egg production demands the use of artificial lights so that the day can be extended to 13 or 14 hours or longer. Any white light—gas or coal oil mantle type lantern, or electric light—is satisfactory. It usually requires three to five weeks to bring the hens into production, depending upon how long in advance of the normal season they are lighted. Research indicates that it takes the toms two weeks longer to become fertile than the hens, so it is advisable to put them under lights 14 days before the hens.

The diet fed to a turkey hen has a very great bearing on the ability of her eggs to hatch and her poults to live after hatching, points out R. M. Blakely, Dominion Experimental Station, Swift Current. It takes from four to six weeks to prepare the hens for laying.

Special laying concentrates for turkeys are available, to be mixed with home-grown ground grains. Alternatively, a chicken hatching mash can be used. In this case it is advisable to feed a little extra fish oil and alfalfa meal in a small amount of warm, wet mash.

Hatchability may be reduced if over 50 per cent by weight of the total feed is fed in the form of whole grain.

### Dry Floor Litter

**I**T is difficult to keep floor litter in poultry houses dry during the winter, especially when the temperature changes rapidly. C. W. Traves, Alberta Poultry Commissioner, advises that satisfactory results have been



The hired man feeds me Alox now. You can afford to take it easy, with extra profits coming in. Alox Linseed Oil Meal sure makes a difference in my health and finish. It's the high oil content plus natural phosphorous calcium, and vegetable proteins in Alox that makes me a real money maker!

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"Feeding Farm Animals  
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**THE ALBERTA LINSEED OIL CO.**  
LIMITED  
MEDICINE HAT, ALTA.



*Stops*  
*Coccidiosis*  
**CHEAPLY AND  
EASILY**

**"COCCIDAZINE"**  
*in the drinking water*

Even birds passing bloody droppings may be saved at a cost of only 1 1/2 to 4 cents each, depending on age.

CONCENTRATE—No. 2528	TABLETS—No. 2315	POWDER—No. 2406
4 fluid ounces \$1.70	25 tablets — \$5.75	1 lb. — \$34.00
16 fluid ounces 5.50	50 tablets — 11.00	
128 fluid ounces 34.00		

Available from your druggist or veterinarian





# How to prevent losses ... Make more money!

## 1 PROTECT CHICKS Against Germs in Drink

Thousands of chicks are lost every year from disease that is spread by germs in drinking water. It doesn't pay to take a chance when prevention is so cheap and so easy. From the very first day, keep drinking water purified with Dr. Hess Poultry Tablets . . . 4 tablets per gallon. It's cheap insurance.



## 2 LICK COCCIDIOSIS This Sure Way

Best of all treatments for coccidiosis is prevention . . . dry litter, good ventilation, clean range. But sometimes, chicks get it in spite of all precautions. When they do, lick it with Dr. Hess Poultry Sulfa in the drinking water or Dr. Hess Coxitrol mixed in the mash. See directions on the containers.



## 3 STOP HORN GROWTH Without Hurting Calf

Horns cause loss if allowed to remain. It gives calves a bad set-back when horns are allowed to grow and then cut off. Caustic oozes and may endanger calves' eyes. But Dr. Hess "Pol" (pronounced "pole") positively stops all horn growth without pain or set-back, burning or oozing. One man, alone, can apply it. A small bottle treats 10 calves. It's the best.

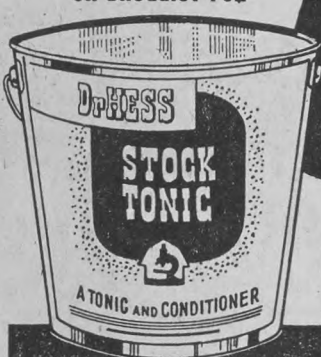


### MONEY BACK IF DR. HESS PRODUCTS DON'T PAY

All Dr. Hess products are sold with a positive money-back guarantee. If used as directed, and if you are not satisfied that they pay, your Dr. Hess dealer is authorized to refund the full purchase price.

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# DR. HESS

"SKP" FOR CALF SCOURS • "POL" • STOCK TONIC  
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"BEATTIE"  
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★ BURNS WEEDS  
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SHEDS

Use it year-round for killing insects and bacteria in poultry yards and hog pens, cleaning up weeds along fence rows, thawing out tractor crankcases—a hundred other uses. Burns kerosene, No. 1 range oil or tractor fuel. One hand operated, non-plug ring nozzle generator. At hardware and implement dealers—or write us for the name and address of your nearest dealer.

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529 South 4th St. Minneapolis 15, Minn.

obtained by using hydrated lime to recondition litter.

The first consideration in keeping litter dry is to provide adequate ventilation. If this has been done and the litter is still damp it can be improved by spreading 12 to 15 pounds of hydrated lime for each 100 square feet of floor space on top of the present litter, then adding one to two inches of fresh litter.

It is important that all litter be

stirred at least twice a week. When litter around the water troughs and windows begins to get damp it can be replaced with litter from a drier part of the pen, in order to prevent packing and caking.

It should be carefully noted that hydrated or slaked lime must be used for this treatment. Quicklime is irritating to the birds' feet, and can cause fire when it comes in contact with moisture in the litter.

## Choosing A Breed Of Chickens

*There is something to be said for most of the popular breeds of hens, but one breed is likely to be best for your farm flock.*

by ADDIS MILL

OTHER factors being equal, why don't you raise hens whose looks appeal to you? All breeds have been improved to such an extent you should be able to do this without sacrificing practical considerations.

Do you like White Leghorns? There is nothing prettier than a flock of ready-to-lay pullets with their floppy red combs, yellow legs, dazzling white plumage and shapely bodies, but after they have been confined to the laying pens for a few months they may have brown streaks on their white feathers, frost-bitten combs and pale legs. The latter applies to all breeds, of course, but seems more noticeable in the case of Leghorns.

To look at it from a more practical standpoint, Leghorns will produce more eggs for the amount of feed they consume than any other breed—a very important consideration today. They are delicate, however, and losses from blow-outs and other causes are high. Then, too, Leghorns cannot stand the cold as well as heavier breeds, such as New Hampshires.

There's a pretty bird, not only as a pullet, but as a laying hen. When the floor has just been covered with clean, pale, yellow straw, it provides a perfect background for the golden brown plumage and pink heads. (What red-head could wear a rose pink hat? Nature can combine these colors and get away with it.) Every bird has a darker necklet of longer feathers that shimmer at every movement of the head. Yes, they're pretty birds and good layers.

Their eggs are a warm light brown that makes you feel like eating them. If you retail your eggs you may be able to get a premium of one or two cents a dozen, as many people are convinced brown eggs taste better than white.

These hens have sturdy bodies, losses are light, and when they are past the peak of production you can get a good price for your old hens.

They are inclined to go broody, but if you watch them carefully, you can avoid a good deal of "broodiness loss." The first time you notice one sitting too long in the nest, take her out. If not too cold put her right outside, give her water but no food. She will probably be laying in a few days, but once one gets into a deep brood it is very hard to break her.

New Hampshires and all general purpose breeds will eat three or four pounds per hundred per day more than Leghorns.

How about pantalooned Orpingtons the color of creamy tea? They lay

good brown eggs, but are not such heavy layers as, say, Rhode Island Reds.

This is a handsome bird, a little darker than a New Hampshire, its feathers are a rich, dark reddish brown speckled with black and getting darker towards the tail. It lays dark brown eggs with golden yolks. When it gets out on the grass, the yolks are too yellow for some tastes, but they make a rich looking cake. True, these birds sit like the Sphinx, but today you can buy stock that has had the tendency to broodiness pretty well bred out.

There are both single and rose comb strains. (Rose in this case refers to the shape.) The latter is better in colder portions of the country, as there is less danger of freezing.

A flock of Light Sussex is a very pretty sight. The black lacing around the neck is in pleasing contrast to the light plumage. They are excellent table birds but there are better layers.

Perhaps White Wyandottes with their round bodies, loose feathers and rose combs appeal to you. This bird lost a good deal of its one-time popularity, but is staging a comeback today. It is a grand winter layer. The eggs are small, but what is the use of wasting all the extra feed it takes to make an egg over 24 ounces to the dozen. You won't get any more for a larger egg.

ONE of the most economical hens that ever dribbled water down its chest is the Barred Plymouth Rock. This was the popular breed on farms in my childhood and perhaps it is for this reason a Barred Rock seems to have a homely look. Here is a clean, neat bird, and it is not necessary to emphasize its good looks to divert attention from its other qualities. It is hardy. It lays well, and its eggs are uniform both as to size and color. Cockerels are good both as broilers and roasters.

This by no means exhausts all the breeds, but covers the main ones. Are you more in doubt now than when you started? Well, then, why not try a crossbreed? In the heavier breeds Rhode Island Red x Light Sussex is good, but some chicken men claim this cross increases the broodiness. However, Leghorn Males x New Hampshire females gives a cross that combines the sturdiness of the New Hampshire with the non-broodiness of the Leghorn. If they are not as pretty as some of the birds I have mentioned, you do at least get some very interesting feather arrangements and good production.

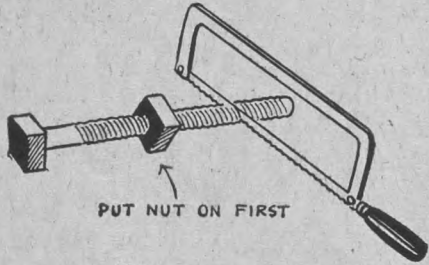


# You Can Do It At Home

A small workshop and a good set of tools will save dollars.

## Bolt Trick

Here is a little trick to eliminate jagged edges from a freshly sawn bolt without running a die over the threads. Before cutting off the bolt,

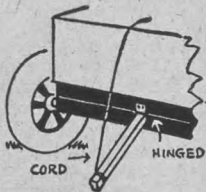


PUT NUT ON FIRST

put on a nut between the head and the part where the saw is to be used. After sawing off the end, back the nut off the bolt and in so doing the threads will be smoothed.—O. A. Z.

## Wagon Dog

We use a short piece of 2x4-inch scantling with a short, stout brad at the end, as a dog for wagon or trailer on hills.



When not in use the dog is held up by a loop over the reach when the latter extends out, or from a rope fastened to the box above.—J. M.

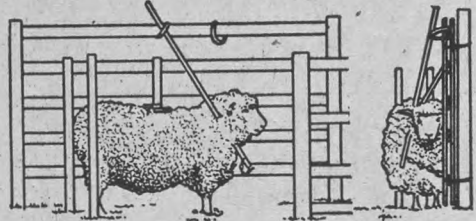
## Carrier Frame

To carry heavy pails without brushing them against your knees and spilling the contents, make a small, light frame of 1½ by ¾-inch material. A frame of convenient size will be 36 inches long by 28 inches wide. Step inside the completed frame, hold each side at the centre and while still holding the frame pick up a pail with each hand or, as in the diagram, grasp the frame through the bail of the pail and let your wrists carry the weight of each. The frame keeps the pails away from your body and makes for convenient walking.—J. C.



## Sheep Crush

This idea came from New Zealand and will prevent the job of handling sheep for long stretches of time from becoming tiring. Set a well-built hurdle in a convenient place or use a convenient board fence. About six inches from the hurdle drive the 3x2-inch stake about four feet long, and a second one 12 inches from the hurdle and six inches ahead of the first. These are to hold the rump of the animal firmly. At an appropriate height fix a small bracket to the hurdle, made of

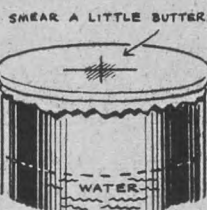
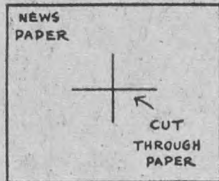


3x¼-inch lumber. This should rest lightly on the sheep's back and will prevent upward movement. Next, a piece of light pole about three feet long is required for a halter pole. To one end of this attach six to eight inches of light chain, with a swivel in the centre. Attach the free end of the chain to the hurdle at a point suitable to the length and height of the sheep.

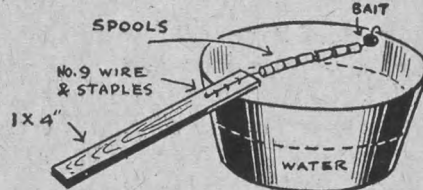
The sheep is placed into position with its rump against the two stakes. The halter pole is brought around so that the top end will be held by a leather loop or strap on the top bar of the hurdle. Two straps a little distance apart will make adjustment to the size of the animal easier.—N.Z. Journal Agr.

## Three Mouse Traps

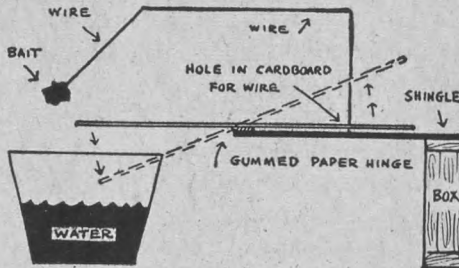
Here are three variants of the mouse trap idea, each leading to the same end—drowning. By one method you select a piece of newspaper big enough to more than cover the top of a container half-filled with water. Tie the paper down tightly over the top, make



a cross slit in the centre, smear a little butter near the cut edges, provide a leaning stick or method for mice to climb to the top, and there is your trap. The second variant employs an open-topped vessel, also half-filled with water. A piece of 1x4-inch board long enough to serve as a ramp from the floor to the top of the vessel is used and to one end of it a 10 or 12-inch piece of No. 9 wire is stapled so that it projects about eight inches



from the end of the board. Six small spools slipped over this wire will complete the device except for turning up the remaining inch or two of wire at the end. To this turned up end the bait is attached. The wire and spools are bent to lie horizontally across the top of the pail over the water. The mice do the rest. Number three requires a 14-inch piece of wire, a 4x8-inch piece of cardboard (not too heavy) some fairly stout gummed paper, a piece of shingle four inches wide, the usual half pail of water, a box a little higher than the top of the pail and a piece of board to use as a ramp from the floor to the top of the box. The shingle is fastened to the top of the box projecting toward, but not as



far as, the pail. The cardboard is then fastened, lengthwise, to the outer end of the shingle and cut in two pieces, with the two pieces then hinged together underneath by the gummed paper. Arrange some bait on the hooked end of the wire, fastening the latter in some way (see diagram) to the shingle. Arrange the board as a ramp to the top of the box, then wait for the mice to break the hinge on the cardboard and fall into the water. —W. P., J. N. T., H. E.

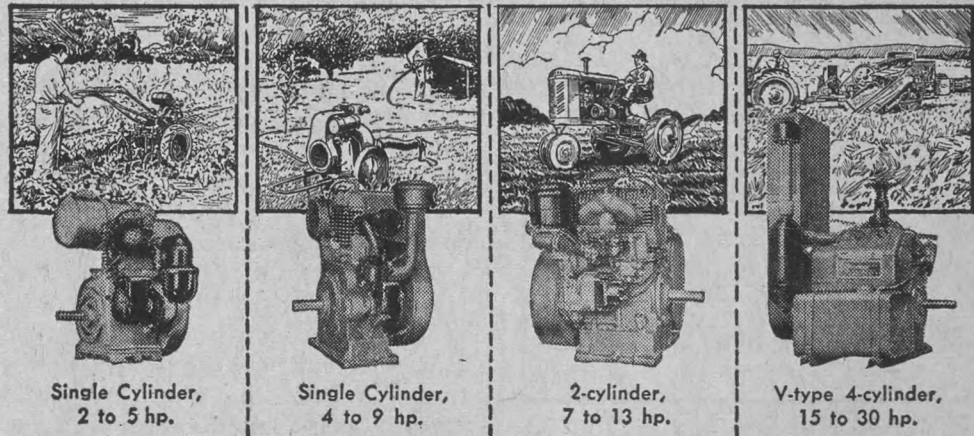
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For Fast Relief From Distress of Sniffly, Sneezy Head Colds

Get right after head-cold miseries with this specialized medication that works fast—right where trouble is! A little Vicks Va-tro-nol in each nostril starts instantly to relieve sniffles and sneezes, and soothe irritation. Relieves stuffiness, too—opens nose to make breathing easier. Keep Va-tro-nol handy and use it early at the first sniffle of a head cold. Follow directions in package.

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Be Sure it's Powered by a **WISCONSIN HEAVY DUTY Air-Cooled ENGINE**

Look at the engine as well as the machine when you buy motorized farm machinery . . . because no machine is any better than the engine that drives it! That's why it's a good idea to make sure that the machine gets its power from a dependable, heavy-duty Wisconsin Air-Cooled Engine!

These fine engines are now supplied as standard power units on leading makes of combines, hay balers, forage harvesters, grain and hay conveyors, garden tractors, sprayers and dusters, rotary tillers, beet loaders, irrigation pumps, potato harvesters and many other types of equipment. Most of the "Big Name" manufacturers in the farm equipment field, as well as many smaller manufacturers of high-grade equipment, recognize the value of using Wisconsin Engines on their machines.

"Powered by a Wisconsin Engine" means trouble-free air-cooling and quick, easy starting in all seasons, in all climates . . . plus rugged, heavy-duty design and construction to provide the greatest operating dependability and the "Most H.P. Hours of on-the-job service", at the lowest operating and maintenance cost.

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# HORTICULTURE



Start cutting asparagus after two seasons' growth. Cut daily for a month, two inches below the surface, extending the cutting season in later years.

## Breeders Extend Variety List

Intensified search for suitable quality varieties under way.

FOR 25 or 30 years governments and interested fruit growers and gardeners have been endeavoring to secure varieties of both fruits and vegetables suited to our rigorous climatic conditions. In fruit varieties the factor which most seriously limits the usefulness of the variety is hardiness, or the ability to withstand the extremes of cold and dryness met with more or less generally over the entire area from Winnipeg to the Rocky Mountains. Such factors as quality and size are of little value unless accompanied by sufficient hardiness that the tree may live and fruit over a fairly long period.

In an endeavor to offset this question of hardiness as much as possible by cultural methods, growers have resorted to low-set trees with heads either at or close to the ground, in order that the snow may cover and protect as much of the tree as possible. Plant breeders have found it necessary to begin from the extremely hardy species, such as the Siberian crab, the fruit of which is extremely small, and to combine the hardiness of these species with the size and quality of fruit commonly found in more tender varieties. Native hardy stocks also have been used for crossing. Hardy varieties have been imported from Russia and other countries with rigorous climates, with the result that for almost all of the kinds of fruit we can grow in the prairie provinces, a substantial list of new and improved varieties has been accumulated. The western sand-cherry has been domesticated and crossed with the plum to produce the plum-sandcherry hybrid.

Many individual growers and nurserymen have contributed to the progress made to date. Much of the work done up to the present has depended largely on natural crossing and the growing of large numbers of seedlings. Some of these seedlings have given fruit of sufficient value to warrant naming them as new varieties.

As a result of the organization and recent work of the Western Canadian Society of Horticulture, a co-operative program of plant breeding between the Dominion Department of Agriculture,

operating through the Experimental Farm Service, and the provincial institutions has been developed. This program will involve a marked stepping up of fruit breeding for the prairie provinces, in which the plant breeders will get together from time to time and pool their knowledge as to what crosses seem most likely to produce results, after which these will be made in such volume (for the most part at the Morden station) that large numbers of seedlings from these controlled crosses will be available for growing at the other institutions involved.

Also at the instigation of the Society, a similar program of breeding and of variety testing is under way with vegetables. At the annual meeting of the Western Canadian Society of Horticulture held in Edmonton during the last week of January a very interesting report of vegetable variety testing and vegetable breeding work was received, which promises much more reliable vegetable varieties for farm gardens, as well as for specific purposes such as canning, or deep freezing storage. Charles Walkof, of the Morden station, pointed to an interesting development in vegetable breeding which may ultimately mean a great deal to prairie horticulturists. This dealt with the possibility that greater success may attend the breeding of such vegetables as tomatoes, cucumbers and muskmelons, if comparatively small but heavily bearing plants are aimed at.

Amateur plant breeders from time to time make notable contributions to fruit and vegetable breeding. At the Edmonton meeting one afternoon was devoted to reports from three commercial fruit and vegetable growers, who were able to record notable achievement. Commercial truck and vegetable growers, for example, and fruit growers who specialize in such fruits as strawberries and raspberries in western Canada, are invariably under some handicap to begin with. The standard commercial varieties developed in areas of greater moisture or more favorable climatic conditions are not often fully suited to our conditions. Consequently, the prairie commercial



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grower can often afford, by selection or even by crossing different varieties, to attempt to secure a type which he can sell for more money. The method used will depend on the amount of time the grower believes he can afford, or the amount of money he can spend in work which may ultimately lead to no results. If he wins out he stands to gain materially from heavier yields or better quality market produce.

Generally speaking, however, effective plant improvement by individual farmers is not very productive. In the history of grain production in western Canada, one can point to no more than a handful of growers who have really achieved anything of importance as plant breeders. The same is pretty well true of men who have applied themselves to fruit breeding. The reason is that only a very few individuals are prepared to spend the necessary time and money and to make the necessary studies of the subject so that they can work intelligently in pursuit of a hobby which they are prepared to keep up year after year. It is because such work is pretty well a matter for the professional breeder, located at our universities and experimental stations that the Western Canadian Society of Horticulture has become a useful society, since it enables the professional horticulturists to meet together and exchange ideas as well as to examine the results of each other's work. Members of the society are interested, of course, in all other aspects of horticulture also, but despite such problems as chlorosis (the yellowing of plants), the control of rodents such as mice and rabbits, or the many cultural problems incidental to pruning, fertilizing and tillage, the basic problem of prairie horticulture is hardiness and a need for suitable hardy varieties of satisfactory quality and size.

### Make Fruit-Growing A Hobby

F. A. COATES, Edmonton, Alberta, has forwarded us a special appeal to all retired or elderly people to make fruit-growing a healthful hobby. This he believes, when once started, will lead on to better and better results. He says:

"As the late George Chipman, the man who made the prairie provinces fruit conscious through the medium of this page, once told me, 'when the experimental bug bites it bites deep!'

"Try planting a few of all varieties of fruit pips. Budding and grafting is not nearly as mysterious as people may think. Make the production of bigger and better fruits for the prairies your special interest. It works."

### The Farm Garden

THE Dominion Experimental Farm at Brandon has been examining the records of all the illustration station farms in Manitoba, and has come up with the conclusion that the money value of farm vegetables at home, including any surplus that may be sold, amounts to about 2½ to 3 per cent of net farm income for the year. This is placing the lowest possible value on the farm garden, because there are several other values attaching to a good well-cared-for garden. One of these is variety. When vegetables must be purchased it is rare indeed that they are made available to the farm family in anything like the same variety as when the vegetables are grown at

home. Another advantage is that the vegetables can be had fresh from the garden. Any housewife knows what this means. Still another advantage is that vegetables can be used much more liberally when grown at home than when purchased, because while they may not actually be cheaper in the long run, the time spent on the garden is generally after the regular day's work has ended or some odd time when other things are not very pressing.

Transcending all other values of a good farm garden is the additional nutritional value of vegetables grown at home. It might be more correct to say that not all farm gardens do produce vegetables with this extra food value, but they could. The garden spot is generally better manured and fertilized, also better cultivated than most other parts of the farm; and if care is taken to incorporate plenty of organic material in the garden soil, the life of the soil underneath the surface will be tremendously improved. All kinds of bacteria, fungi, earthworms, beetles and other insects will be encouraged to develop, as a result of which the home-grown vegetables will be healthier, more nutritious and, incidentally, better able to combat diseases and pests.

### The Million Dollar Apple

A NUMBER of years ago The Country Guide put on a very vigorous campaign under the heading "The Million Dollar Apple" and distributed seedlings, many with McIntosh cross. These will now be bearing fruit. Wouldn't this be the time to take stock and see the results of that campaign? These trees will be scattered all over the west and in my opinion no more interesting experiment has ever been tried on the prairies.

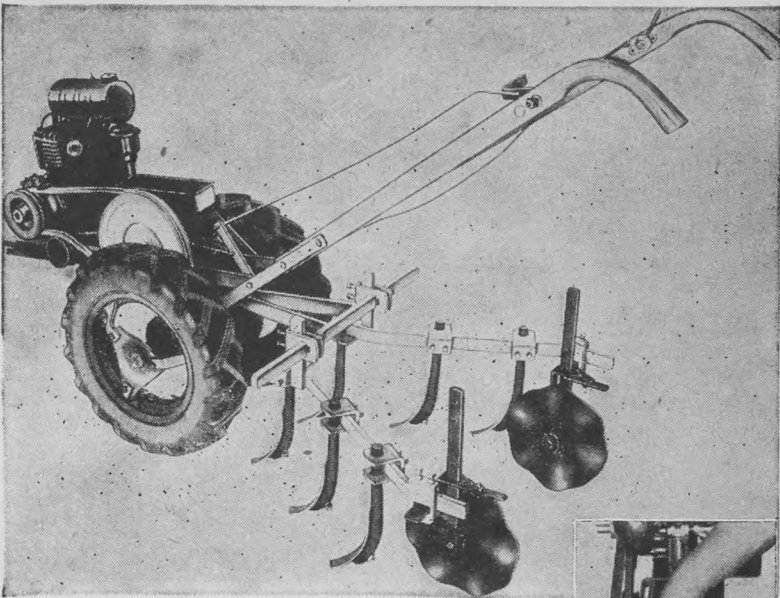
Judging from my own experience and that of one of my neighbors I do not think that the idea of "The Million Dollar Apple" was as visionary as some might think. One of my seedlings started to bear fruit in its fifth year and has been bearing fruit the three years since in spite of the fact that late spring frosts in 1947 stopped all fruit except the very hardy crabs. It is a vigorous upright grower producing fruit to the very top and there has never been any sign of winter damage, even to the tips of the branches. In 1948 this tree was simply loaded down with fruit, a size larger than my Trail and Rescue. (All 1948 fruit was small because the summer was very dry—less than 2 inches of rain during the growing season.) The fruit is early, keeps better than any of the apples I have and does not go mealy like most, but just dries up and loses flavor if kept too long. The best test of all is the children always pick this tree when raiding the orchard.

I may not have "The Million Dollar Apple" but someone on the prairies may have it now. If not, the nearer we get to it the more encouraged we will be and the less likely to think it impossible.—R. Kirk, Sask.

**Editor's Note:** Our thanks to reader Kirk. The editors of The Country Guide have received, from time to time, samples of fruit grown under the inspiration of the late George F. Chipman. Some samples are of very creditable size and quality, but none has yet looked like "The Million Dollar Apple." Can any other reader produce it?

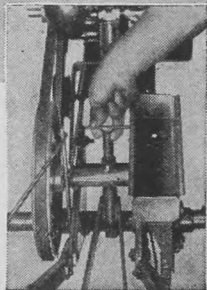
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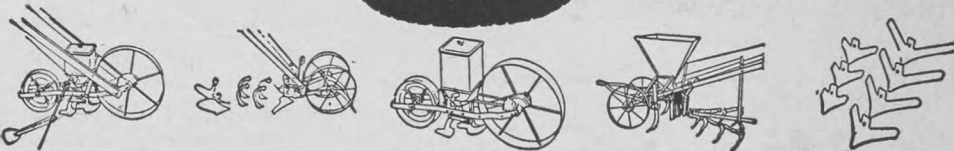
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### Why Don't Fruit Trees Bear?

THERE are many reasons why fruit trees do not bear and all these reasons do not always apply to any particular instance. It may be because winter frosts injure the flower buds, or spring frosts injure the blossoms. It may be because the variety is not self-fertile and requires some other variety to fertilize it. It may also result from drought in early summer, or because other varieties growing adjacent, bloomed too early or too late or for some other reason are not compatible with the non-bearing trees.

The growing conditions we provide for trees also have an influence on their bearing habits. If a fruit plant does not bear it is because something has happened to prevent it, and not because bearing would be unnatural. The primary object of every plant is to reproduce itself. In order that this may occur, nature has provided that the vegetative and reproductive processes shall more or less alternate with each other. An apple tree grows vegetatively (produces roots, leaves, branches and increases in size) for a part of the year and then at a certain season which varies with each type of fruit plant it produces fruit buds for the crop of the following year.

This is the critical period of crop production, other things being equal. Under certain conditions, for example, the supply of nitrogen and carbohydrates may be out of balance and all the energies of the tree or plant may go into leaf buds. If these constituents are in balance the tree will normally form many fruit buds, which, when once formed, will remain latent until the correct blooming season comes along. At this time the fruit buds expand, blossoms will appear, and eventually the fruit can be harvested.

Much can happen before the period of bud formation to influence the quantity of buds the tree will form; and also, much can happen after the buds are formed to influence the quantity of crop to be harvested. If trees are starved, and grow very little, fertilizing them may result in fruit bud formation and a subsequent crop, while if trees grow too vigorously and throw too much of their energies into vegetative growth, the pruning of the roots may bring about the necessary balance and result in a fruit crop. Also, if trees are not cultivated in very dry seasons and weeds are allowed to compete for the scanty moisture, they may not be able to form fruit buds and will throw all their energies into making as much growth as the weeds permit them to make.

There are a great many things that we still do not know about the finer relationships between trees and the soil in which they grow, or about the influence of heat and cold. About all the really careful grower can do is to keep the trees as healthy as he can, give them the care that he believes they need, and leave nature to do the rest.

### Cardboard Smothers Suckers

TWO years ago, I successfully grafted some Heyer No. 12 and No. 14 scions on some eight-year-old seedling apples that kept freezing back and had never produced any fruit. I did the work by the cleft method, low down near the ground. When the

grafts were well established, I started gradually pruning away all old top growth. The new grafts have grown nearly six feet tall in two seasons, but all last spring and during the early summer, suckers came up so persistently from the bases of the original trees that I had to destroy a few dozen of them every three weeks.

It looked as if I would have to keep doing that for the rest of my life until I tried cutting up old cardboard boxes and fitting them snugly around the new trunks. I used three to four ply and weighted the sheets down with earth and small stones to keep them from blowing away. With no light getting through to the base of the trees below the grafts, sucker growth has been gratifyingly discouraged. Anyway, if any of them do make a start now, they are bound to be smothered and perish under the stout covering that I have put over them.—Robert J. Roder, Alta.

### A Trail Error

WE are grateful to D. R. Robinson, extension specialist, University of Saskatchewan, for calling our attention to an error as to the origin of the Trail and Rescue apple-crabs, which occurred in our January issue. This was an example of "haste makes waste."

Mr. Robinson writes: "According to the bulletin 'Variety Notes on Some Tree Fruits Grown in Prairie Orchards' by W. R. Leslie, Rescue is listed as originating at the Dominion Experimental Station, Scott, Sask. In one of John Lloyd's catalogs he mentioned having budded it on Siberian crab for the first time in 1933. It very probably fruited at the Scott Station in 1933, or possibly even in 1931 or 1932. Rescue is described as a seedling of Blushed Calville. The parentage of Trail is given by Leslie as Northern Queen X Rideau. Confirmation as to the parentage of Trail is given in bulletin 86, 'The Apple in Canada, Its Cultivation and Improvement,' by W. T. Macoun. This bulletin was published in 1916."

We knew better than to credit these useful varieties to the old Dominion Experimental Station at Rosthern, but our pen slipped.

### Healthy House Plants

HOUSE plants in the average house probably suffer more from incorrect temperatures and improper watering than from any other causes. In most houses the temperature is generally too warm for most plants. This is particularly true at night, when few houses heated by furnaces are kept at 60 degrees or lower, which is better for the plants.

Watering too, is often irregular. Plants need water when the soil is dry enough so it will crumble in the hand. The most approved method is to set the plant in a pan containing an inch or two of water, and let the water come up from the bottom. When the top soil appears moist the plant has received enough water and should be removed from the pan. This should not take more than a few minutes.

In many houses too, the moisture content of the air is too low. It is possible to place pans of water on the radiators or to install a humidifier. Another method is to stand the pot on saucers or trays filled with gravel, which is kept moist. The moisture, however, should not be allowed to touch the bottom of the plant.

## Salt In Abundance

*Continued from page 14*

The Goderich district went mad. Plants mushroomed up all over the area. Production was simple. By drilling 1,000 feet almost anywhere in the vicinity, one could find rock salt. Water was forced down the holes to dissolve the salt. The brine was pumped up and evaporated in huge, open kettles. Fuel could be had cheaply from nearby forests. Purity of the product was unimportant.

BY 1870 there were 16 salt plants going full steam at Goderich—more than in all of Canada today. Competition was intense. American producers fought tooth and nail to retain their grip on the Canadian market. Mortality rate among salt companies was heavy. Today, only two salt plants remain in operation at Goderich.

While there is no accurate estimate of the Windsor salt deposits, geological surveys indicate they cover at least 3,500 square miles. Their thickness varies from 50 to 250 feet. This would give a total minimum content of 50 billion tons. At Windsor, where the largest salt plant in the Dominion is operated by the Canadian Industries Limited, depth of the bed is 250 feet. Amount of salt per square mile there is approximately 435 million tons.

Although saline springs have been known of in Saskatchewan, Alberta, British Columbia and the Northwest Territories for many years, inaccessibility to ready markets prevented their development. In 1907 a rock salt deposit was encountered at 1,400 feet near Fort McMurray during oil drilling operations by the Northern Alberta Exploration Company.

In 1913 development of a salt bed near Prince Rupert, British Columbia, was launched by a west coast syndicate. During that year 13 tons of salt were produced. To supply a demand for the province's fisheries, the B.C. Salt Works Ltd. was formed in Prince Rupert with intentions of putting up a plant this spring. But nothing came of it. The British Columbia fish industry still imports salt from California—several thousand tons a year.

REBIRTH of the salt industry in Manitoba actually began in 1912. That year the provincial government was drilling for natural gas in Neepawa. At 1,100 feet a brine pool was struck. Upon analysis the brine was found to contain a high concentration of salt.

Unconcerned with salt at the time, the government capped the hole. But interest was stirred 20 years later when the Neepawa Salt Company was formed to exploit the well. A small plant was built and several hundred tons of coarse salt was produced in old-fashioned open pans. In 1935 the property was purchased by Canadian Industries Limited.

Armed with a vast knowledge of chemistry, markets, economics and latest engineering methods, C-I-L dismantled the old works and erected a modern plant. A second well was drilled to a depth of 1,500 feet. Salt production began on a highly commercial scale.

The process at Neepawa today is a far cry from the open-air method employed by Monkman on Lake Winni-

pegosis more than a century ago. Instead of the shallow iron kettle, mammoth vacuum evaporators are now used to crystalize the salt in the brine. Roaring boilers generate great quantities of steam for the evaporators and the operation of the plant's own electrical system.

No more hand-ladling of brine from shallow pools. Brine is pumped up from the bowels of the earth by electric power into storage tanks where it is purified by chemical treatment, filtered and piped into the evaporators.

In these, thousands of steam-heated copper tubes boil the brine under a partial vacuum created by the passage of steam from one evaporator to another. Crystallized salt falls in a steady stream to the bottom of the evaporators and is taken to rotating driers where a steady blast of hot air dries away all traces of moisture. A screening process grades the salt according to the size of the crystals. The finest salt, for household use, is rendered "free running" by mixing with a small portion of magnesium carbonate, then packed in two-pound containers.

COARSER salt is conveyed to a 500-ton hydraulic press where it is compressed into solid 50-pound blocks of stock salt or smaller cow licks.

For farm animals in iodine-deficient areas, iodized blocks are made by adding 0.02 per cent of calcium iodide. To distinguish the plain from the iodized a small portion of harmless iron oxide is used to give the iodized block a reddish appearance.

When it was discovered that cattle in certain western areas were suffering from the dread "pining disease" due to cobalt deficiency in their diet, cobalt-iodized salt was introduced early last year. This consists of a normal iodized block to which 0.02 per cent cobalt carbonate has been added. The aquamarine color of the block is acquired by adding an inert pigment for identification only. A complicated chemical method at Neepawa also recovers calcium magnesium chloride for filling tractor tires.

After the Neepawa plant was successfully launched, other companies turned their salty eyes towards the west. In 1937 the Dominion Tar and Chemical Company, with a salt plant at Sarnia, Ontario, completed another producer at Waterways, Alberta, near Fort McMurray. The same firm has just finished building a third works in Unity, Sask., which is expected to be producing this month (March).

Last year the Alberta Salt Company completed a vacuum pan salt plant at Elk Point, Alberta, some 140 miles northeast of Edmonton, near Lindbergh. The company is a subsidiary of three oil companies—Anglo-Canadian Oil, Home Oil, and Calgary and Edmonton Corporation. This gives the prairie provinces four of the 11 salt plants operating in the entire Dominion.

There's no questioning the fact there will be plenty of salt for all. In fact, enough to last till doomsday. While the lateral limits of the deposits are unknown, drilling has shown them to be from 500 to 1,000 feet thick. Geologists believe there is one continuous bed running from Alberta into Saskatchewan larger in all dimensions than the Ontario field.



# NEW

## SALT Ration

contains  
essential COBALT!



# WINDSOR

Leads again with

# COBALT

## IODIZED SALT!

Cattle and sheep can sicken and die, if their diet does not contain sufficient cobalt. It has been definitely established that lack of cobalt in the diet of ruminants results in loss of appetite, depraved appetite and anemia. In time, the animals simply stop eating and pine away. That is why this condition is called 'pining disease'.

Since hay and grain are often low in cobalt content, Windsor offers a completely new product that provides excellent protection against cobalt deficiency — Windsor Cobalt Iodized Salt. In it, three important dietary elements are combined — salt, iodine, and cobalt.

There are three forms of Windsor Cobalt Iodized Salt: a loose stock salt for mixing with feed; 50 lb. blocks for the pasture; and 5 lb. licks for barns and stables. Take advantage of this convenient, economical way of assuring your livestock full protection.



**WINDSOR**  
**COBALT**  
IODIZED SALT

A Product of

CANADIAN INDUSTRIES LIMITED

SALT DIVISION

Chief concern of the western salt producers will be markets. Consumption in western Canada varies from 75,000 to 90,000 tons annually. In 1949, with the Elk Point and Unity works in the picture, total salt production in the west is expected to be from 100,000 to 120,000 tons.

Total Canadian consumption of evaporated salt is approximately 350,000 tons annually. A substantial part of this is used in the chemical industry. In addition, large quantities of solar evaporated salt are imported for east and west seaboard fish-curing purposes. Mined rock salt is also imported and used chiefly for ice control on roads, hide curing and railway car refrigeration.

With workable salt deposits available in all provinces except Quebec and Newfoundland, it seems obvious from the foregoing that the western market is strictly limited. The great salt-consuming industries in the east are out of the question because of the long freight hauls. Consumption of domestic salt might increase somewhat due to accelerated immigration, but little change is expected in agricultural consumption. Due to dollar shortage in most foreign countries, the export market has dwindled down to a mere trickle, with little hope of recovery in the near future.

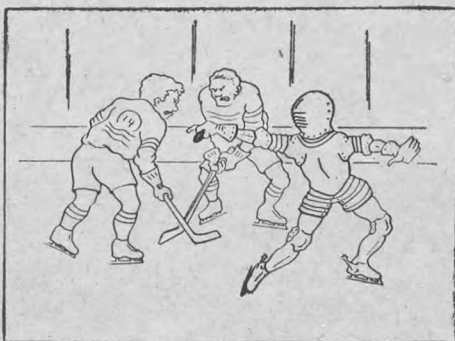
Entrance of the salt companies into the chemical field began in 1910 when the Canadian Salt Company built a plant to produce caustic soda and chlorine at Windsor, Ont. This development was purchased by C-I-L in 1928.

CAUSTIC SODA is vital to industries making soaps, glycerine, mercerized cotton, cellophane, carbolic acid and water-glass. Essentially a gas, chlorine assumes a liquid state when cooled at an extremely low temperature and subjected to great pressure. It is indispensable as a bleaching agent in paper and cotton manufacture.

In World War I mixtures of chlorine and other gases were used as weapons in chemical warfare. Today, its germicidal properties are employed to benefit man by stamping out disease germs in his water supply. When chlorine gas is bubbled into a strong caustic solution a new substance, sodium hypochlorite, is formed. This is the active ingredient in one of the most common household items—Javelle water.

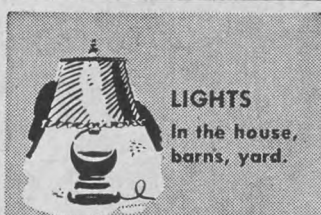
Salt has many other close relatives doing a big job for industry, farm and home. Among them are such products as synthetic ammonia, nitric acid used in manufacture of explosives, baking soda and soda ash. Salt can claim to be the grandfather of the amazing insecticides DDT and benzene hexachloride, and the weed killer 2,4-D.

Tomorrow, several more of its offspring will likely be dropped on our doorstep by ever-inquisitive chemists.



16

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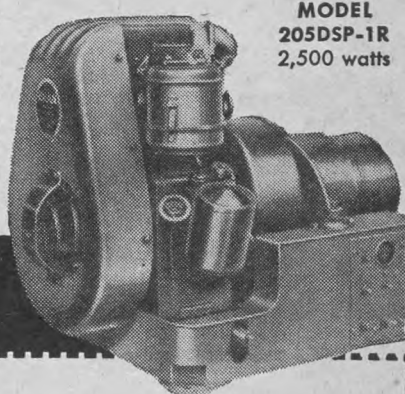
Just by flicking a switch in the house, barn, anywhere within 250 feet of the plant, you have lights, power for a milking machine, cream separator, motor-driven tools, appliances and a water system.

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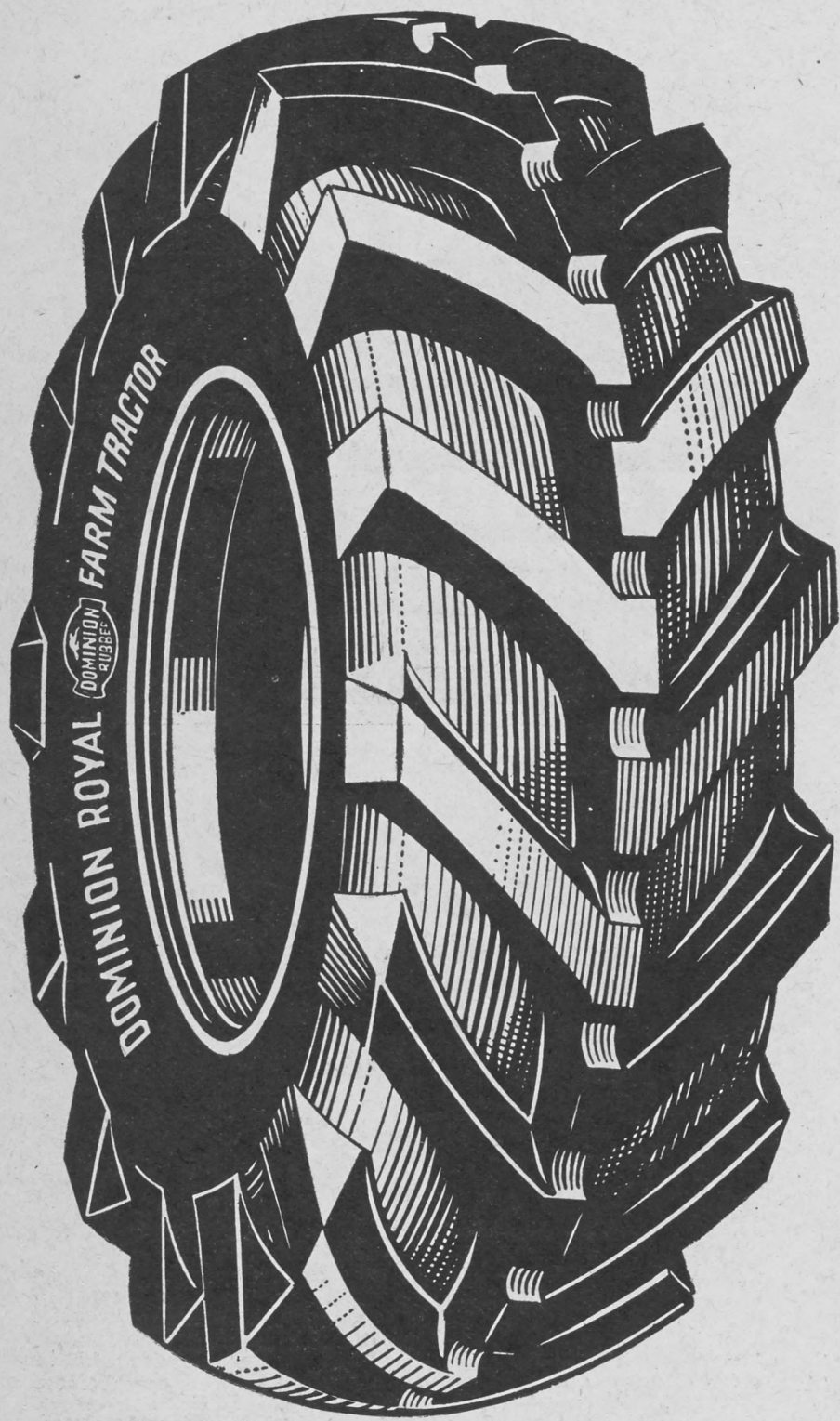
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The Backbone tire is built tougher to take the roughest going. Its extra-heavy tread guards against bruises . . . helps keep repairs down. On hard roads, the Backbone design prevents excessive twisting and bending of the lugs . . . a cause of rapid, uneven tire wear.



# DOMINION ROYAL

## FARM TRACTOR TIRES

DOMINION RUBBER COMPANY LIMITED



# African Jungle Conquered By Science

*The "Ruler" of Africa, the Tsetse fly, has been dethroned by a new synthetic drug, "Antrycide."*

IN the closing days of the old year, British scientists announced a new discovery which may in time rank with its war-time triumph of penicillin. The new find is a drug, "Antrycide," for the control of sleeping sickness.

The term sleeping sickness requires some clarification for Canadians. About twenty years ago western Canada suffered an epidemic of encephalomyelitis among horses. While the plague was on a few humans suffered from a malady characterized by extreme lethargy, and believed at that time to be connected in some obscure way with the concurrent horse ailment. The popular name given to both the human and equine forms was "sleeping sickness," borrowing a name from a totally unrelated tropical disease.

Sleeping sickness has been known in Africa since the early visits of the white man. The carrier of the disease is the Tsetse fly, harmless in itself, but just as the mosquito carries the organism which causes malaria, so does the Tsetse fly harbor the microbe, or

joined two of these ring patterns together with a single atom of nitrogen. One of these rings was pyrimidine, a pattern very similar, but not identical with some that are found in the human body. The other was known as quinoline, a type of pattern similar to that in the natural anti-malaria drug, quinine. The full chemical name of the new substance formed by the joining of these rings runs to 50 letters, interspersed with figures, hyphens, dashes and brackets. Neither the pyrimidine nor the quinoline alone had any effect on the trypanosomes. Joined together by the single nitrogen atom they were deadly to that organism but harmless to man and beast.

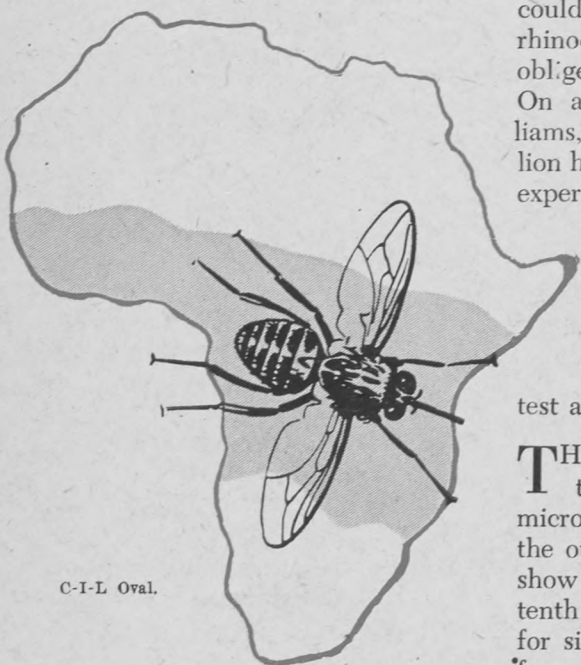
The first tests of the new drug were made at Manchester, England. They were highly successful, but it was realized that the only conclusive tests would be those carried out in Africa under natural conditions. Accordingly the centre of operations was shifted into jungle surroundings which provided all the drama experimenters could ask for. At one time a charging rhinoceros interrupted procedure and obliged the scientist to climb a tree. On another occasion, says Mr. Williams, some of the Masai people, famed lion hunters, had to be hired to protect experimental cattle from marauders.

Other tropical diseases attacked the stock and forced the investigators to repeat some of their work. On another occasion soldier ants devoured mice which were being used for test animals.

THE investigations showed that there are two forms of the microbe, one named congolense, and the other vivax. Trials with Antrycide show that single doses of about one-tenth of an ounce will protect cattle for six months against the congolense form, and for about four months against vivax infection. The cattle themselves are not affected by the drug and, after simple instruction, it is claimed that any native cattle owner will be able to cure his sick beasts and immunize his healthy ones. Other forms of organisms which attack camels, horses, donkeys and dogs are also combated with Antrycide.

In the first flush of enthusiasm over the new find it is possible, says the Economist, to overestimate early practical results. Antrycide alone will not people Africa with great herds of commercial cattle which may become a factor in world markets. Teaching an unlettered black man the secrets of a new synthetic may not be so simple. In any case pastures must be made and maintained against jungle growth and new sources of unfailing water supply must be developed. Without Antrycide, however, the solution of these other problems would be meaningless. It is, therefore, a strong link in a chain of events which in future can make great areas in Africa valuable cattle country.

Antrycide was discovered by a team led by Dr. D. G. Davey, who is at present in Africa working in a jungle laboratory, and Dr. F. H. S. Curd, who was killed in a train crash in Britain in November of last year.—P.M.A.

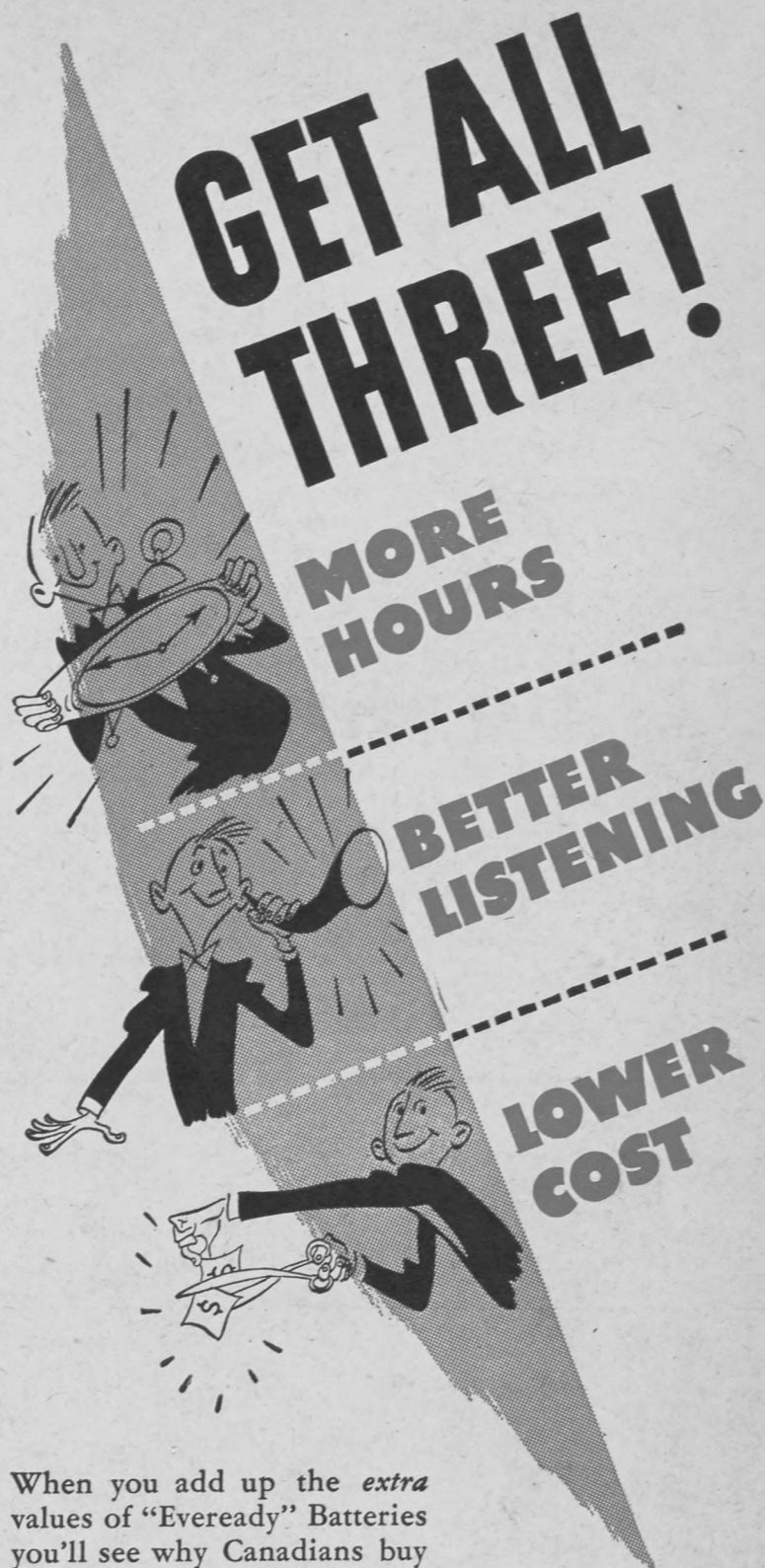


C-I-L Oval.

trypanosome which causes the disease technically known as trypanosomiasis. In cattle it is known as Nagana. In the human it has long been known as sleeping sickness. Nagana is such a serious threat to livestock keeping that a broad belt across the centre of the African continent is practically uninhabitable for domestic cattle. The impact on humans in that area is also terrific. Between 1901 and 1906 it is estimated that 200,000 natives died of sleeping sickness in Uganda alone.

Like so many other recent scientific discoveries, Antrycide owes its appearance to the war. When the Japs overran the south Pacific they cut off the world's commercial supply of quinine, at that time the standard remedy for malaria. Search was immediately begun in British and American laboratories for an anti-malarial substitute. This culminated in the discovery of Paludrine, a compound with exceptional powers for curing and preventing malaria. But the search had led the chemists into an unexplored field. They were dealing with molecules consisting of atoms of carbon, joined together in rings, to which were attached other atoms such as oxygen, nitrogen and sulphur.

After a long series of experiments, says Trevor Williams, writing for the British Information Office, they



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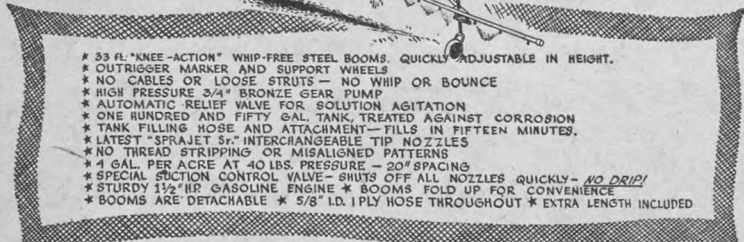
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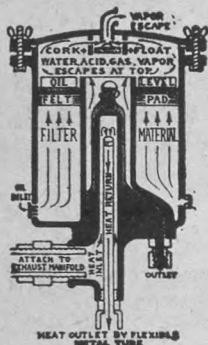
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# MONTHLY

## Grave Threat To Canada's Wheat Exports

*International Financial Difficulties, Regulations Affecting Marshall Plan Funds for European Relief, and Pressure from Big Wheat Crops in United States Combine to Create Grave Problems.*

Serious threats to the future prosperity of Western Canada's wheat industry have become apparent during the past month. How to meet these constitutes one of the most important problems to be dealt with by the Canadian Government.

In part, these threats arise from the international financial situation, and the difficulty of finding means by which importing countries can pay for Canadian products.

To a still more important extent, they arise from expansion, during recent years, of the area in wheat of the United States.

Canadian difficulties, in this respect, began some time ago when it became apparent that European countries, including the United Kingdom, were running out of Canadian dollars with which to pay for wheat. Canada had previously granted a very large credit to the United Kingdom which for a time was drawn on to pay for British imports of wheat. Then Canada, with currency difficulties of her own to contend with, and running short of United States' dollars, had to suspend operation, for a time, of the British credit, and ask the United Kingdom to find other means of financing purchases in Canada.

For a time it seemed that the situation would be taken care of by E.R.P. funds from the United States, that is, funds voted by Congress to be lent or given to European countries to carry out the Marshall Plan for European recovery. In voting those funds, Congress provided that some of them might be spent in other countries for what were known as "off-shore" purchases. Two limitations, however, were provided. One was that commodities declared to be surplus in the United States might not be bought in other countries. The other was that "off-shore" purchases might not be made at prices higher than those prevailing for corresponding commodities in the United States.

Already flax has been declared a surplus commodity. For that reason no E.R.P. funds can be used for buying Canadian flax, even although such flax is offered at \$4.00 per bushel against the prevailing price of \$6.00 per bushel for American flax. In consequence, Canadian flax is piling up in the hands of the Government which, before seeding time in 1948, had guaranteed to buy, during the current crop year, all flax offered to it on the basis of \$4.00 per bushel.

For a time it was hoped that the United States would not declare wheat a surplus commodity, in spite of the obvious surplus position in the United States as a result of the very great crop harvested there in 1948. Now, with another huge crop possible because of large acreage and very good prospects for winter wheat, there will be insistent demands for such a formal declaration to be made by the American Government.

### Dangers Immediately Ahead

The present situation falls short, although not by a great deal, of such a formal declaration by the United States Government. As a general practice, when European countries are allotted E.R.P. funds for wheat purchases, they are informed that such purchases should be made in the United States. That such has been the practice has been long known in Canada. It became startlingly evident months ago when export sales of flour diminished. Canadian mills, which only a short time had been grinding to capacity, were forced to reduce operations, and some mills were closed. Sales by the Wheat Board of unmilled wheat ceased so far as many countries were concerned.

The situation might already have been seriously embarrassing for the Canadian Wheat Board had there been more Canadian wheat available. However, the free surplus for export this year, after taking care of the British contract, is not very great; conditions affecting deliveries and transportation have so far prevented a surplus in export conditions. In addition, some substantial sales for export have been made to countries outside the scope of E.R.P., including Egypt, China, and South Africa. Thus, the problem has not so much created immediate difficulties as it has presented difficulties likely to be encountered in the very near future.

### United Kingdom Situation Different

There is evidently no thought in the United States of trying to drive Canadian wheat out of the British market. There is, however, objection to the use of American funds by Britain to pay for Canadian wheat, especially if sales are at prices higher than prevail in the United States. That feeling undoubtedly had something to do with recent settlement of a \$2.00 price for Canadian sales to Britain during next crop year. No matter how willing the United Kingdom might have been to make the price higher, in compensation for the low prices of the early years of the contract, British financial relations with the United States made that impossible.

Further, it seems probable that dislike on the part of the U.S. Government to see American funds spent by England in Canada brought pressure upon the Canadian Government to reopen the Canadian credit to Great Britain.

### Pressure Comes From Big U.S. Wheat Crops

There is no damage to the economy of the United States in the use of E.R.P. funds for purchases in Canada. American dollars provided under the Marshall Plan must ultimately be spent in the United States, whether, in the first instance, by the country to which they are advanced or, later, by Can-



# COMMENTARY

ada if this country obtains them for wheat. Similarly, it is in the interest of the United States, both from the standpoint of defence and of general welfare, that the Canadian economy remains strong, which is only possible through the maintenance of Canadian wheat exports.

Such facts are undoubtedly known to Government officials at Washington, but the country is a democracy and its policies are subject to pressures from voters. If they see their own wheat piling up unsold, and especially if prices are depressed by a surplus, they will bring a pressure on the Government, as they have been doing, to secure the export of their own wheat instead of Canadian wheat.

In that fact lies the essential danger to Canadian wheat producers. The danger has increased because, stimulated by high prices received by farmers south of the line, wheat acreage has expanded. Three million additional acres, for example, are now in Winter wheat, as compared with last year, with a total wheat area for 1949 likely to reach 83 million acres.

## What Can We Do?

For Canada the all-important question is, what can be done about the situation? Obviously something must be done, for it is vital not only to the western farmer but also to the whole Canadian economy that the country's wheat exports be maintained.

There may be help in the international wheat agreement now under negotiation. Conceivably its provisions will guarantee to Canada both the right to a certain share in international trade and also means of financing that share.

Next, help is to be hoped for by convincing the United States that in the general interest there should be no undue crowding of Canada out of world wheat markets. Possibly there will be a resulting move to reduce wheat acreage south of the line.

Canada may find it necessary to finance exports, both of wheat and of other commodities, by further loans to Great Britain and to other countries. Or, perhaps some plan is possible of taking payment for wheat in sterling, or in currencies of other countries, to be spent as later opportunity offers, either in the purchasing countries or in related areas where such currencies are acceptable.

Any possible plan at once runs into limitation—from the capacity of this country to finance, from the capacity of other countries to provide goods, or from the willingness of the United States to proceed along certain lines. Quite probably only a combination of various plans will serve.

At all events the problem of maintaining Canada's wheat exports is both one of the most important and one of the most difficult which now faces this country.

## The Wheat Board And Coarse Grains

During the next few weeks much will probably be heard of the renewed proposal that the Wheat Board should become the exclusive marketing agency for oats and barley, on condition that it acts as a producers' agency. It will be easier to follow the dis-

cussion if note is taken of the change from a year ago in the position of the Canadian Federation of Agriculture. In February, 1948, that body recommended to the Government that the Wheat Board be given the same exclusive jurisdiction over oats and barley as it enjoys with respect to wheat. While suggesting that the Wheat Board should act primarily as agent for the Wheat Board, the Federation went on to say:

"That it be provided always that the Board's domestic operating and selling policy shall carry out the spirit and intent of a general agricultural policy that shall effect a proper relationship between grain and livestock prices, as determined by the Federal Department of Agriculture, after consultation with the Canadian Federation of Agriculture."

That position was abandoned by the Canadian Federation of Agriculture at its January meeting in Saskatoon, and the following resolution was passed:

"BE IT RESOLVED that a joint effort be made to enable the Canadian Wheat Board to be the sole marketing agency of coarse grains, and that any legislation giving the Canadian Wheat Board the same exclusive powers over the marketing of other grains as it now exercises over wheat, shall be based on the principle that the Canadian Wheat Board shall be an agency operating for benefit and in the interest of grain producers, with a duty to sell grain for the best available price whether in export or domestic markets, and shall not be used as an instrument of Government to control domestic policy, but full recognition of the importance of the livestock industry shall be given by the Government of Canada, and that the Government shall take adequate measures to establish necessary reserves of feed grains whenever such action is deemed necessary."

The Government of Canada had taken power by amendment to the Wheat Board Act in 1948, to bring oats and barley under exclusive control of the Wheat Board. It had stipulated, however, that it would only do so on two conditions, (1) that the provinces pass complementary legislation and (2) that the Canadian Federation of Agriculture agree on and take responsibility for a formula for the domestic price of feed grains.

In view of the change in position of the C.F.A. in respect to domestic selling prices, it seemed possible that the Dominion Government would not insist on its former requirement that the Federation produce a formula for domestic selling prices. It also seemed probable that the Government might still insist on complementary provincial legislation before extending the Wheat Board's jurisdiction. Saskatchewan has passed but not proclaimed such legislation, while the matter has yet to be considered by the legislatures of Alberta and Manitoba.

Also, in view of the wording of the C.F.A. resolution, it seemed probable that legislation in Manitoba and Alberta would only be practicable if the Dominion Government would give assurance, either by amendment to the Wheat Board Act or otherwise, that the Wheat Board, in handling oats and barley, would follow such a selling policy as is set forth therein.

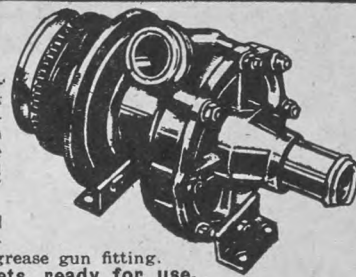
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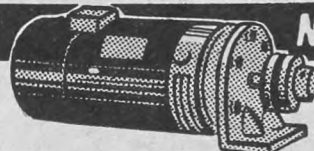
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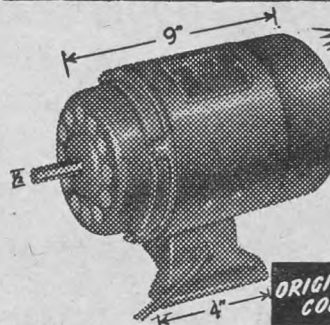


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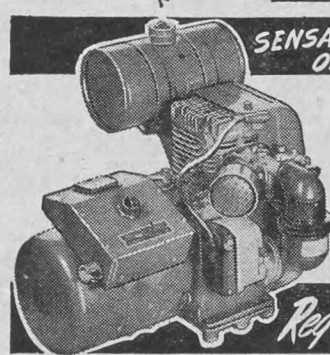
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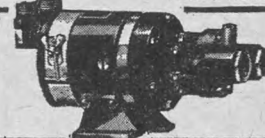
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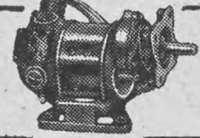


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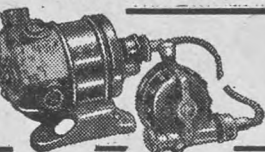
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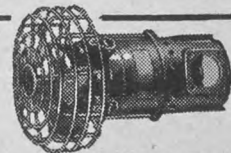
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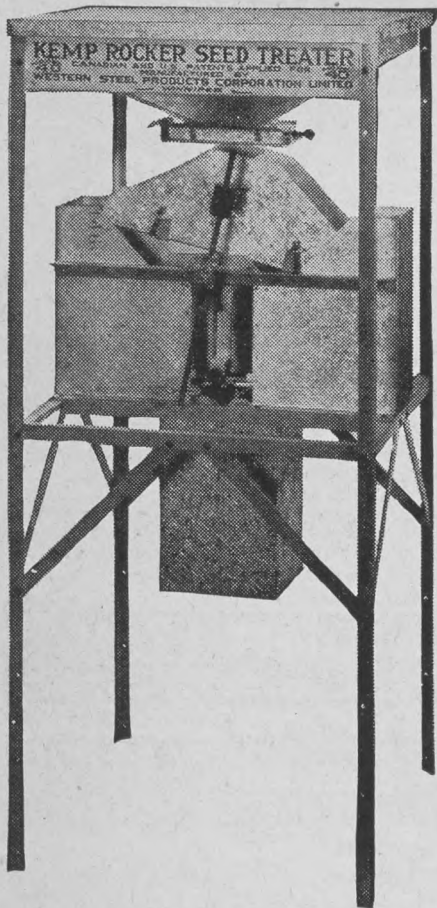
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# Spike Pitcher In Turmoil

*A labor-relations episode compounded  
of grim determination and comedy.*

by NORMAN L. DANIELS

WHEN Tommy and I decided to head for Saskatoon, threshing was in full swing on the bald prairies. We had been working out of Mildren during harvest and had made some nice money and quite a bit of it. And even though threshing was in full swing and wages good, we were getting itchy feet and kidded ourselves into the belief that we were due for a week in the "bright lights" anyway.

However, our expectations were short lived for while waiting for the train at Mildren we fell in with a thresherman who was badly in need of two men, a cook and a spike pitcher. It wasn't particularly through the desire to help him out that we took the job, but because he offered us exceptionally good wages.

Reluctantly we passed up the trip to Saskatoon and took the job. No employer, anywhere, when badly in need of labor, is quicker to increase the scale of wages, than is the farmer. Tommy took on the cook's job at nine dollars a day while I went spike pitching at eight dollars a day.

After arriving on the job we discovered that the party who hired us was in partnership with his father-in-law, who hastened to inform us that it was he who wrote the cheques and not his son-in-law, and that he had no intention of paying such wages. Nine times out of ten transient labor, the type which is usually found hanging around small towns, have little or no money and the worthy father-in-law had concluded that we belonged to that category and therefore should be quite satisfied with something less in the way of wages.

However, the decision was soon taken out of his hands—and ours too for that matter. It was apparent to the men working around the machine that some sort of an argument was in progress and they were also aware of the fact that the outfit was badly in need of a cook and another spike pitcher. It appeared that the daughter of the "boss" had been doing the cooking and, acting on orders from her father, had instituted a program of rigid economy in the kitchen. The boys were kicking over the traces and making dire threats of "scuttling the ship" if a change of cooks wasn't obtained forthwith. In fact, the whole crew left the machine running idle and flatly refused to respond to the bacon call any longer unless a new cook was hired with no restrictions as to what was cooked and how the cooking was done.

We went to work, everybody was happy, there was a full crew and a good cook. Tommy was no novice at slinging the hash as the previous winter he had spent five months cooking for a logging outfit of forty men in the Lesser Slave Lake district. Unfortunately, however, we had made two mistakes; the first, that we were getting more money than the other fellows and were not prepared to take less, and secondly, we had made it known. The result was that three days after we started to work the crew decided to go on strike for higher pay.

In all the years I had roamed the prairies this was the first strike of this kind I had ever seen. The morning the boys decided to make a bid for higher wages the outfit was situated in a section of three hundred acres of wheat. It was arranged the previous night by a member of the crew, who in this day and age would be described as having "communist tendencies." The demand was that all help get nine dollars per day and the cook ten dollars per day. The note read that unless the increase was granted within an hour not a wheel would turn and all hands would quit.

Tommy and I signed it the same as the others; had we refused the consequences might have been extremely unpleasant. It did, nevertheless, have the effect of a boomerang, as will be seen later. The "boss" spent a lot of his time in the cook car. Actually he was a retired farmer living on the rent obtained from his land and it was common knowledge in the district that he made sufficient during threshing season to live the winter months in California.

Tommy was assigned to place the note on his plate at the breakfast table where it would be seen and read before the crew came in to breakfast. The regulations at meal times were adhered to there as in all camps throughout the West, "No talking during meals. Eat and get out." We returned to the bunk car and awaited the verdict. Without a word to anyone the boss jumped in his car and headed for town.

The engineer and separator men each drew fifteen dollars a day and were not vitally concerned with the "strike" but could do nothing without a crew. The farmer, on whose place we were threshing, however, had a big investment at stake; when he was informed of the trouble he guaranteed the increase while we threshed on his place, and we went to work.

JUST a few minutes before noon the boss returned with two men whom he intended should displace the two spike pitchers. As soon as the crew were aware of this they threw down their pitchforks and called for their time. Once again the farmer stepped into the breach and the outcome was that we all went back to work and the boss took the two men back to town.

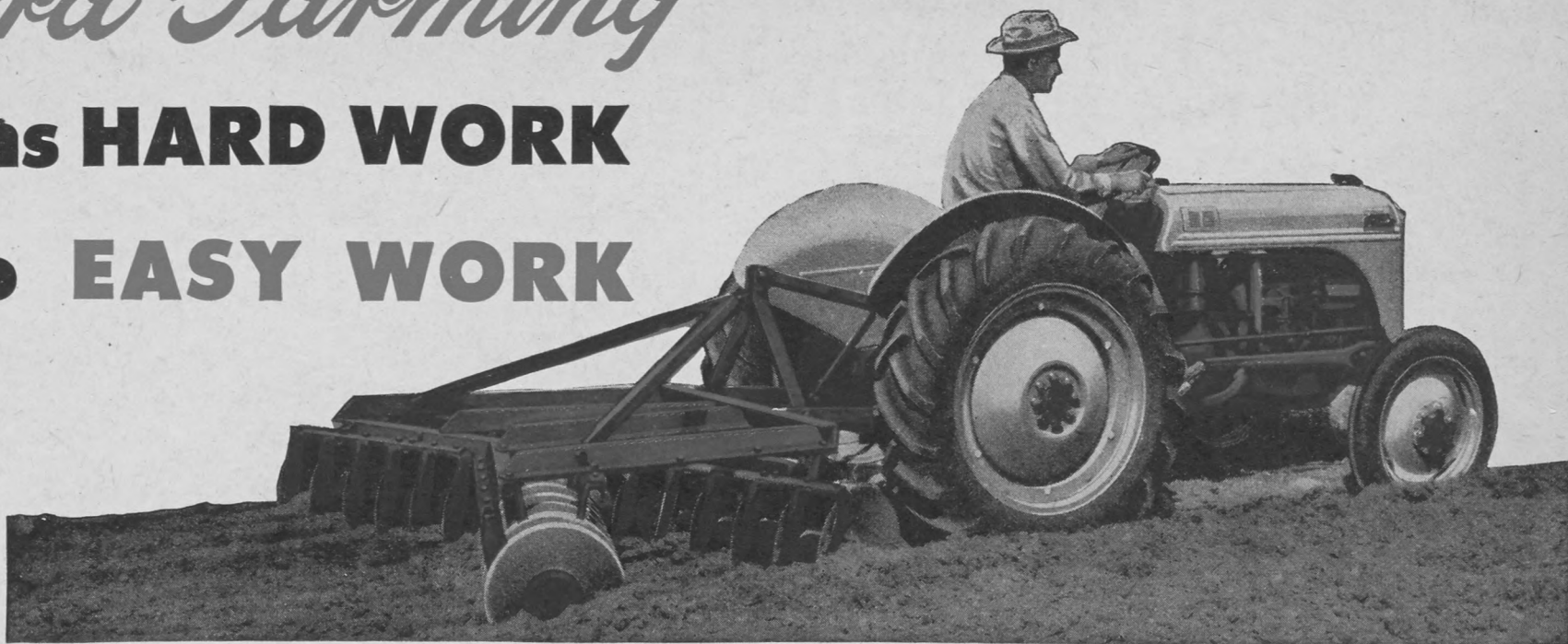
Two days later, however, the boss resorted to a different strategy. Tommy was found guilty of throwing too much food in the garbage, which was an accusation his Irish couldn't stand. He called for his time and I, being his partner, also quit. It was seven miles to Mildren from where we were working. We offered the "boss" two dollars to drive us to town. He demanded five. We walked.





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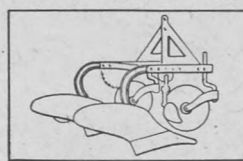
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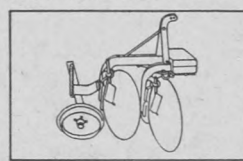
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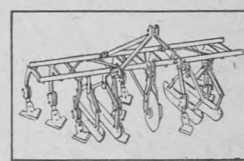
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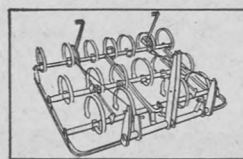
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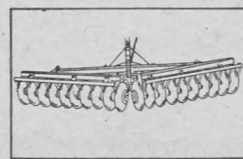
DISC PLOW



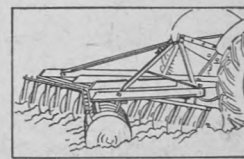
RIGID SHANK CULTIVATOR



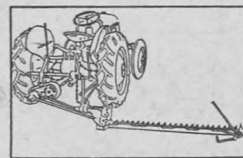
SPRING TOOTH HARROW



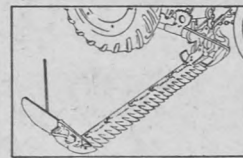
SINGLE DISC HARROW



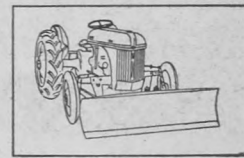
TANDEM DISC HARROW



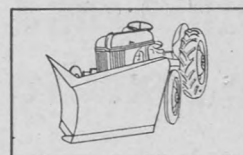
REAR ATTACHED MOWER



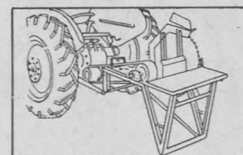
SIDE MOUNTED MOWER



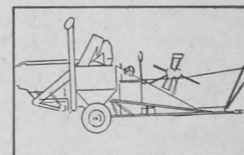
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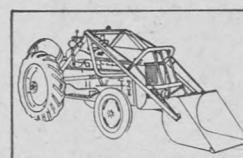
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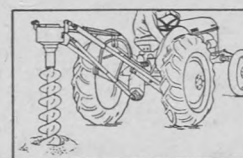
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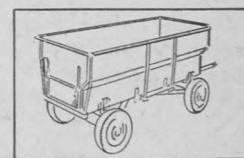
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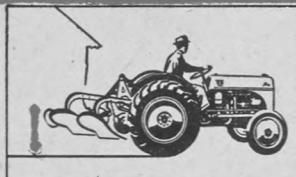


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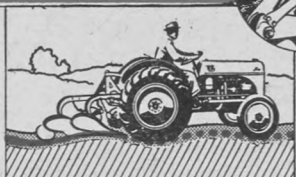
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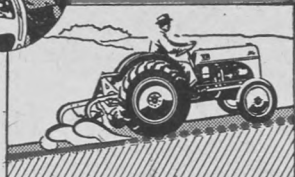
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## Toil Is The Law

Continued from page 10

marriage, because you'd have to work at it, give up things, make decisions."

"You could be right," he said evenly. "Five years in the army teaches you to take orders, not to do any thinking."

"The war's over!" Judy's eyes blazed at him. "I guess there are a lot of men like you—in the cockeyed world you were talking about . . . using the war as an excuse for laziness, discontent . . . expecting the Government to do everything for you, even your working and thinking. You think the world owes you five years out of your life, but when help is offered, you're suspicious . . . contemptuous. You've forgotten how to *work*, Randy! You've forgotten how to *fight*!"

Randy stared back at her, striving to hide stung pride and disappointment. "So that's what you think of me. Why didn't you tell me before . . . it would have saved the both of us a lot of time."

"I kept hoping you'd snap out of it," she said forlornly, "besides, love isn't something you turn off and on. Oh, what's the use of quarrelling, Randy." She tried to smile. "I guess there isn't anything more to say, is there? Naturally . . . you're free," she added painfully. "That's what you want, isn't it? And I wish you luck . . . if that's the right word." Her chin went up, but her eyes were bleak. "Good-bye, Randy."

He took a step forward, but she shook her head.

"I'm sorry," he tried, awkwardly, "it's worked out like this . . . but it's only fair to you . . ."

She cut across his voice.

"Good-bye, Randy."

"All right then," he said stiffly. "Good-bye, Judy."

Well, that was that.

One more fence down. Bruce Taylor would have a clear field now—and the war hadn't hurt *his* financial position any!

HE slept badly that night, rose haggard in the morning. In bitterness of heart and with a sense of degradation, he joined the stream of workers whose jobs began at eight instead of ten, thankful only that he would meet none of the business crowd who knew him. Worth Print was on a dingy side street, its windows dusty, its entrance dark and cluttered with waste paper. He opened the door and the angry clash of rolling machinery seemed to hit him in the face.

A man in shirt-sleeves, tearing wrappings from huge rolls of paper, glanced over his shoulder disinterestedly, jerked a casual thumb towards another door set in a glass partition between office and plant. At a desk inside, an elderly man with a frowning face looked up at Randy's entrance.

"Mr. Worth?"

"Yes, yes. Come in," the man said with nervous impatience. "What is it? Oh, the new man. Sit down a minute. What's the name again?"

"Randolph Stewart."

"That's right . . . Stewart. So, you want to learn typesetting?"

"Do I?" Randy murmured ironically. "Yes, I guess I do."

Worth looked at him sharply and frowned.

"Hum. Well, you know of course, it all depends on you. If you stick to it and learn all you can, you ought to be worth a trained man's salary within the year. It's understood, naturally, if we think the work doesn't suit you, we notify DVA to that effect and you can make a change?"

"I understand that."

"Now I'll hand you over to the foreman, Mr. Zwicker." He hesitated. "Ah . . . just a word! Zwicker's the one you must satisfy. He's boss out there. You'll find him strict, abrupt maybe, but fair. Wait, I'll get him in here."

Randy stood up as Worth went to the door and shouted above the blast of machinery.

"Come inside, Dutch. This is the man I was telling you about. Name's Stewart. Stewart . . . Mr. Zwicker."

"How-do-you-do," Randy said distantly.

Zwicker was a short man with a square body. His vest was strained tight across his chest and his sleeves rolled above muscular arms. His face was squarish too, and seemed to wear a permanently sour expression. He glanced at Randy with frank contempt.

"Another white-collar lad," he grunted. "Sure you want to get your hands dirty?"

"Yes . . . sir," Randy replied stiffly.

"Ah . . . Zwicker here is a one-man shop in himself," Worth put in quickly, eyeing them both. "He can do anything . . . handset type, cast it, run a press, repair it . . . just ask him anything you want to know. Of course, you'll stick to typesetting, but if you get a lull once in a while, it's a good idea to see how the rest of the plant works. All right, Dutch, take over."

Zwicker nodded grumpily.

"Let's get going."

Randy followed him into the cacophony of the plant, skirting the rattling press and dodging moving gear shafts, to the extreme end of the shop where the type-cases stood in a corner.

"Here we go again!" Zwicker complained, "back to primer class. Know *anything* about printing?"

"I worked in a print shop one summer," Randy said quickly.

Zwicker shot him a suspicious glance.

"Yes, I heard about that. Set type?"

"No."

"Run a press?"

"No sir!"

"Work in the bindery?"

"No! I ran errands and swept the floors."

"Thought so," said Zwicker dryly. "You can fool the DVA . . . not Dutch Zwicker. Remember that. Do you know what a frame is?"

"Isn't it the counter at which the typesetter works?"

"So you do know that much. What's a stick?"

"The . . . the thing the typesetter holds in his hand, in which he sets the type, several lines at a time?"

"Near enough. Here, take a closer look at one. Hold it in your left hand, with your thumb so . . . tweezers in your right hand. The type-cases are behind you—slugs, leads, rules over there—8-point Italic, 10-point Roman, old English—heaven help you, it will be months before you know one from the other! Now here's a piece of copy a child could set. Use 12-point Roman. Stick in your *left* hand, I said—*left*!



Sure it's not too heavy for you? You may soil your fingers a little! All right, get busy. Any questions before I get back to what I should be doing?"

"No sir," Randy said between his teeth.

IT was a long, long morning. The world, for Randy, had dwindled to a space about eight feet by twelve, lit by a goose-necked lamp, and bounded by type-cases. He fumbled helplessly with the tiny bits of shiny type, dropping piece after piece, and groping on the dusty floor. His eyes ached in the reflected glare from metal, the noise and vibration beat a cruel tattoo against his brain—and always there was Zwicker! Zwicker popping up at his shoulder, Zwicker grabbing the stick out of his hand, Zwicker jeering at his clumsiness . . .

At noon, a tasteless lunch at the corner drug-store, and back to the stick and the frame. The bindery girls smiled at him as he punched in for the afternoon, but he kept his features blank, and they tossed their heads. Four more dragging hours of thumping noise, the smell of ink, of boiling lead and escaping gas—and Zwicker.

At five o'clock, at last, the infernal machinery began to shut down, one piece at a time. On trembling legs, Randy walked to the cloakroom, got his hat, and started for the door. Zwicker called him back.

"Clockwatcher!" he commented unpleasantly, "Stewart! It's you I'm talking to! Come back here and punch out."

Wearily, Randy went back and punched his ticket. Then, as he re-passed the open door of the office where Zwicker was talking to the boss, he caught a snatch of the conversation . . .

"Too soon to tell about Stewart, I suppose?" Worth was saying.

"That panty-waist?" snorted the foreman. "He'll never be any good to us. We'll have to keep him, I suppose, till something better comes along . . ."

The cutting words fell on Randy like a whip laid across his face, and he hurried out of the building, soul-sick, pride in the dust . . .

No good . . . no good . . . even for a place like this.

Even my hands have failed . . . What's the use? . . . oh Lord, what's the matter with me! Just haven't got what it takes . . . maybe Bay Trust was waiting for someone better too . . . why not get out for good . . . no more worries . . . no more failure . . . Can a man help it if he isn't equipped to earn a living? *You talk like a soap-opera . . . I happen to love you . . . you've been running away . . . you're afraid! All right so I am afraid! What's the difference . . . and who cares!*

ANGER began to throb up under the misery, like tumbled chords drowning out a dissonant melody, culminating in one short, high note . . .

No! I won't die—not that way. Family wouldn't like it . . . make a nuisance for them. What then? Knuckle under and take it? Lie down under Zwicker like a good puppy? Or take a chance of finding something else . . . but what if I should fail there too!

*You've forgotten how to fight!*

I haven't! I'll show her. I'll show Zwicker. *They'll keep me—if I have to stand over that unprintable frame*

# ONCE OVER, ALL OVER

## Tillage

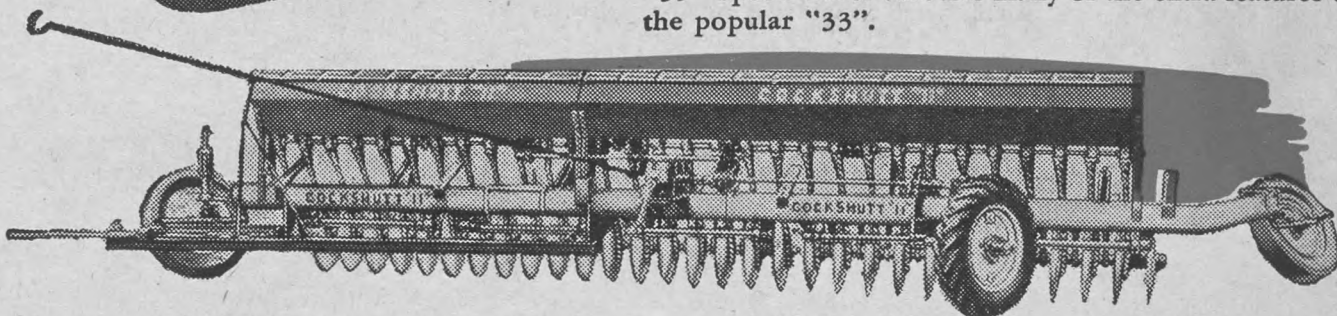
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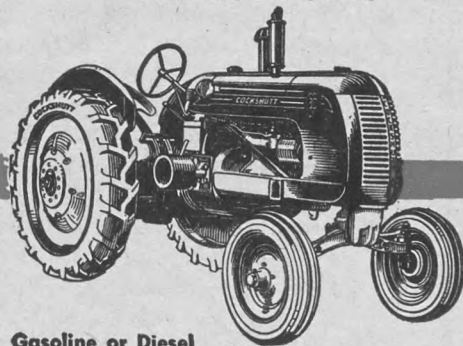
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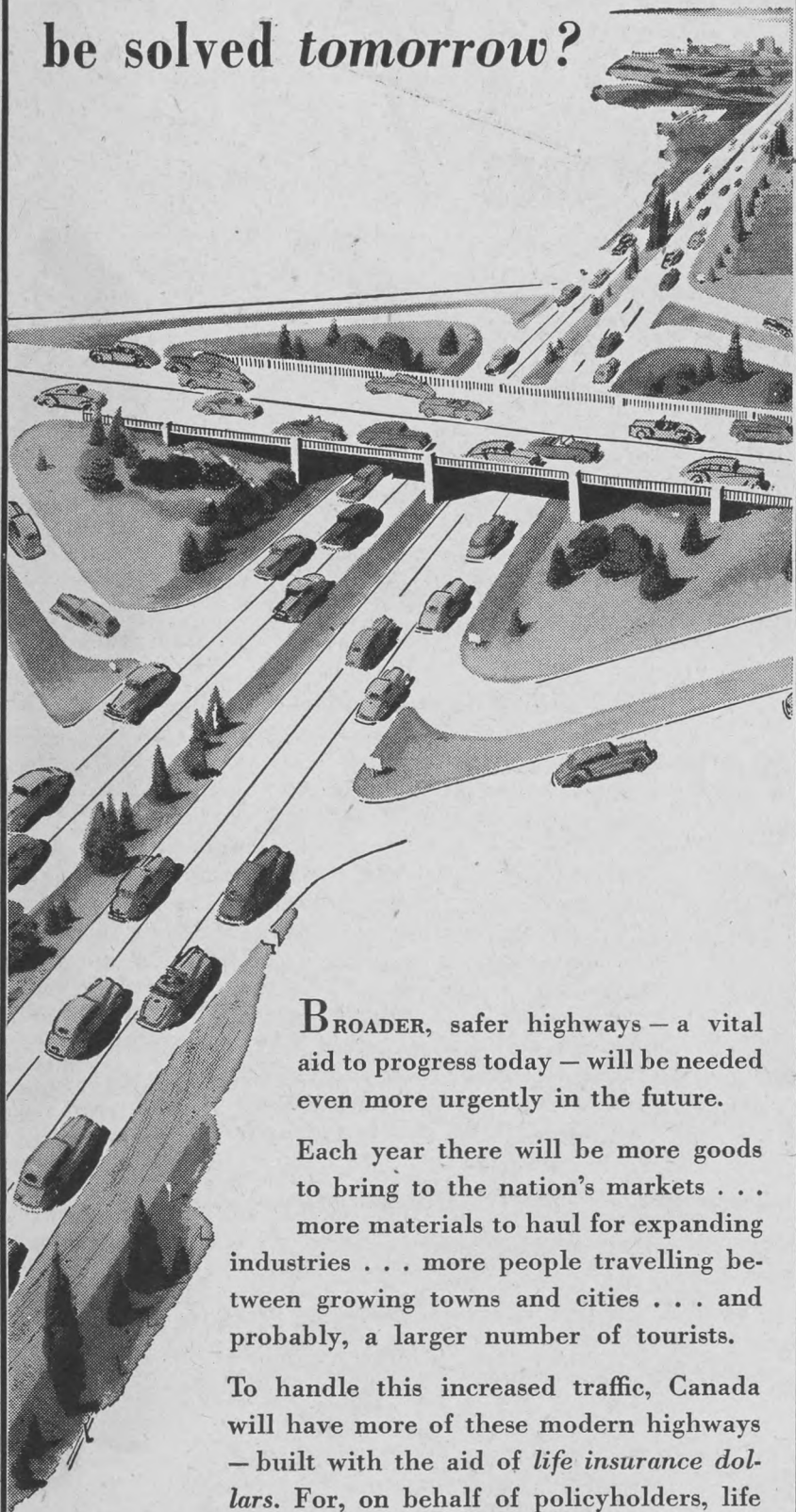
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night and day! They can't get rid of me without *some* excuse, and I won't give them any! My hands . . . I'll *make* them do my will! Lord, *help* me make them!

He went home at last, knowing he wouldn't sleep. But he did, on that night and on successive ones. For days, weeks, months thereafter, he worked, slept, ate . . . almost without thought, feeling rather numb, yet sometimes queerly content . . . Slowly, then less slowly, his fingers grew deft, the slippery quods and letters obeyed the orders of his brain and fell into the stick in orderly lines . . . a little quicker now . . . Zwicker less often at his elbow. There were times of course . . .

"Stewart! Don't you know yet a chase must be *tight*? You cut the rules so short the lines won't justify. You ought to know by now that pied type can knock a press to blazes!"

"Yes, Mr. Zwicker. I'll do it over."

"And when it's done, hustle over here and watch the Little Marvel. Booth's taken a holiday—must have been a bottle party last night! It won't hurt you to get better acquainted with a press. And another thing! That Rotary program—I said caps, not lower case. Heaven save

Hard work is old-fashioned! Sweat and elbow-grease are out of date! When you talk of production, loyalty to a job, people don't know what you're talking about . . . it's all shorter hours, higher wages, more protection!"

So it might be expected that Randy's trick with the padder would have been appreciated by Zwicker. The padder is a sort of platform, with a board up the middle, against which loose sheets are piled ready to be painted into pads with cement. Randy, noting the continual trek back and forth carrying jobs to and from the padder, thought of wheels. He dug up some old ones at home, and put them on. Now the padder could be moved anywhere in the shop, from cutter to press to padder, back to cutter, and finally to the delivery table. But Zwicker was unimpressed.

"If you're quite finished showing the girls how to pad," he said sourly. "Come over here and clean these rollers!"

Randy grinned with malicious intent.

"Yes, sir. Sore because you didn't think of putting wheels on the padder?"

"Listen, wonder boy, one more crack like that and you'll go out of



*Canadian soldiers and airmen learning how to build an igloo at Churchill in a 15-mile wind at 25 degrees below zero.*

me from any more amateurs! You'll have to reset the whole business."

"Sorry. I'll fix it."

The foreman never missed a chance to bait him, or to read a sermon.

"Didn't I tell you to watch that press?"

"Yes sir. Mr. Worth called me."

"That's right, always have an alibi! Loafing labor . . . that's all we get nowadays. Look at our chief compositor over there, hanging on to the type-case so he won't fall down, he's that tired from the dance last night! Do you think Jackson's wondering whether to use Bodoni Bold or Garamond Lightface in that letterhead? No sir. He's thinking of what he said to his girl last night and what she said to him, and wondering if he couldn't have kept her out on the porch just five minutes more! And look at young Alec, leaning on his broom—think he'll ever amount to anything?"

"But Alec's only a boy," Randy protested.

"Sure," Zwicker growled. "He ought to be in school, but he says he left school because he wanted to work. He's only been at it two months, but he's caught the bug . . . do as little work as you can, get the most you can out of the bosses, and watch the clock!

here like you had wheels! More to the point if you'd set type so I wouldn't have to do it over."

"Okay, don't tear your shirt." Randy attacked the first roller with an oil-soaked rag, while Zwicker unhooked the second. "Dutch . . . you don't think we all have the same kind of brains . . . and aptitudes . . . do you?"

"No, I don't," grunted the foreman, "and what of it? That's the stock excuse of guys who are too lazy to find out what they can do. They don't use the brains they've got. Scared of straining themselves. Anyway, brains aren't the most important."

"What is?" Randy asked curiously.

"Sticking on the job, even if you don't like it! Look at Maxie over there . . . not much up *here* maybe, but he uses all he's got . . . earns every cent of his salary. Look, dumb-cluck, you've rubbed that same roller clean three times. Concentrate on what you're doing! That's the trouble with labor today . . . the guy with the broom or the shovel is so busy thinking how he'd like to be in an office with his feet on a desk that he can't do the job he has to do properly. Everybody wants something for nothing. Humph! There's Jackson standing on both feet for a change



*Save Money  
Read these*

# FACTS ABOUT 2,4-D



To get the most satisfactory results from 2,4-D, the farmer should know not only when, how, and where to use it, but how to choose the brand which will give him the most effective and economical weed kill. Properly used, 2,4-D results in increased yields, lower farming costs and bigger profits. It will pay you to read carefully these facts about 2,4-D.

## *How to compare different 2,4-D products*

To determine the comparative value of different 2,4-D products, look for the weight of 2,4-D Acid (the killing ingredient) which the brand contains. For your protection, the labels on all brands of 2,4-D show the number of ounces or pounds of 2,4-D Acid per gallon. Remember — the true comparative value of 2,4-D brands is based on the cost per ounce or pound of 2,4-D Acid in the formulation — not the cost per gallon. Purchase by Acid content.



## *How are 2,4-D sprays applied?*

2,4-D sprays are applied through any standard low or high-volume sprayer. Low-volume machines use only 4 to 8 gallons of water per acre. The amount of HERBATE 2,4-D required per acre depends upon the type of weeds, stage of weed growth and general growing conditions. Under rapid growing conditions, less is usually needed than in hot, dry weather.



## *When should 2,4-D be applied?*

Apply 2,4-D to wheat, oats and barley after plants are 6 inches high (or about three weeks after emergence). Apply to flax as soon as weed growth warrants, provided the flax plants have formed four or five leaves. Do not apply 2,4-D in flax after the early bud stage, or it may cause severe damage.

## *What weeds will 2,4-D kill in growing crops?*

That depends upon the type of weed and the stage of growth. Highly susceptible weeds such as wild mustard or stinkweed are easy to kill at low concentration of HERBATE 2,4-D. Susceptible weeds like cocklebur and ragweed require a higher concentration, especially if weeds are near maturity and growing conditions poor. Russian thistle, Canada thistle, field bindweed and other partially resistant weeds, may be controlled at high concentration, but damage to roots of perennial weeds is unlikely.

## *Is 2,4-D economical?*

2,4-D gives effective weed kill in growing crops at a very low cost. Users report yield increases as high as 30%, due to killing out heavy weed infestations. Cleaner crops also mean lower harvesting and marketing costs.

## *For complete information get new HERBATE 2,4-D Folder*

How to get the most effective and economical weed kill with HERBATE 2,4-D sprays in cereal crops and flax. When and how to spray. How to figure the amount required per acre. How to figure cost of 2,4-D Acid. Ask your C-I-L dealer for helpful new HERBATE Folder.



**HERBATE 2,4-D**  
**FOR EFFECTIVE, LOW-COST WEED**  
**CONTROL IN GROWING CROPS**

## COMPARE THE 2,4-D ACID CONTENT OF "HERBATE" WITH OTHER BRANDS

Before you buy your supply of 2,4-D, read the label carefully. See how much 2,4-D Acid (in ounces or pounds per gallon) the brand contains. Compare the 2,4-D Acid content of HERBATE with other brands.

## THREE FORMULATIONS ESTER • AMINE • SODIUM

**HERBATE Ester.** A liquid which mixes with water or oil, and is adapted to all standard sprayers including aircraft. Penetrates quickly, giving a very fast kill. Not affected by rainfall even shortly after application. Contains 64 oz. of 2,4-D Acid per gallon.

**HERBATE Amine Salt.** A water-soluble liquid adapted to all standard sprayers. Not affected by rainfall after application. Does not precipitate or coagulate to clog nozzles when mixed with hard water. As its action is not as fast or harsh as HERBATE Ester, it is usually preferred for less-tolerant crops such as flax. Contains 80 oz. of 2,4-D Acid per gallon.

**HERBATE Sodium Salt.** A water-soluble powder suitable for any standard sprayer. Action is much milder than Ester or Amine formulations, and less likely to injure crops with low tolerance for 2,4-D. Contains 11.2 oz. of 2,4-D Acid per pound.

## A PRODUCT OF CANADA'S LARGEST MANUFACTURER OF CHEMICALS

HERBATE 2,4-D is a product of the Agricultural Chemicals Division of CANADIAN INDUSTRIES LIMITED, established leaders in modern pest control products. Whenever possible, it will pay you to discuss your pest control problems—whether weeds, insects or plant diseases—with one of the trained C-I-L field representatives.

**ASK YOUR  
DEALER FOR  
HERBATE 2,4-D**



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**C-I-L**  
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*Agricultural  
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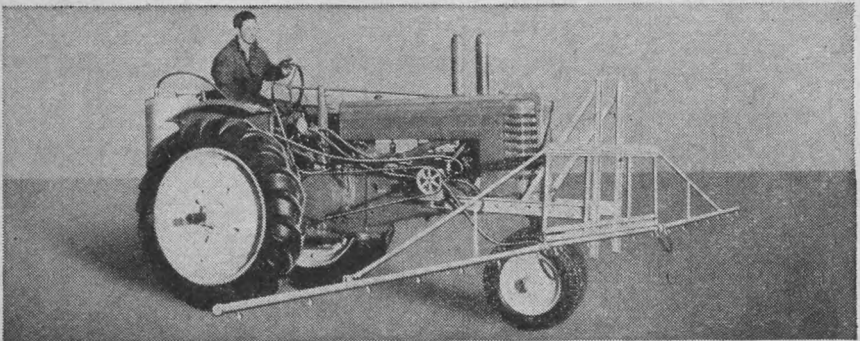
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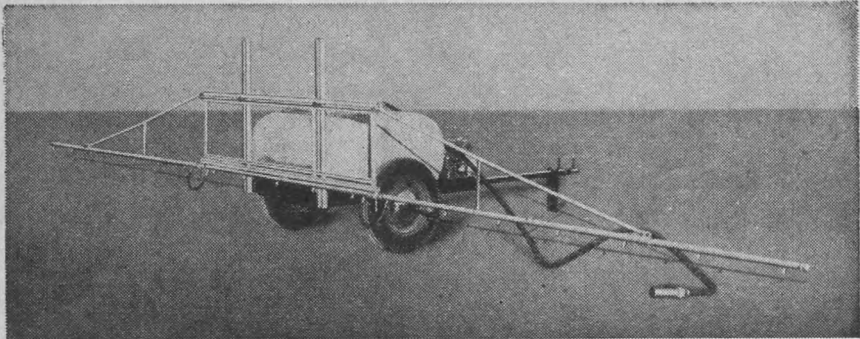
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**SEE** this tractor-mounted model with full 30-foot, 1" aluminum boom pipe which mounts on ANY tractor. Braced out to the ends so booms won't whip when the going's rough. Two outside 11' booms fold back for easy passage through gates or lanes. Boom delivery is all controlled from tractor seat. And it's simply and easily adjusted for height. Sturdy safety ratchet joint protects outside booms on contact with any obstacle.



**AND LOOK** at the trailer model. Here's the same famous sprayer as used on the tractor-mounted model. Teejet nozzles use only 5 gallons of liquid per acre. Husky 150-gallon hot galvanized tank mounted low on rubber tires for steady spraying. Filled in a jiffy. Multi-purpose filter keeps nozzles clean. **AND AVAILABLE NOW . . . 10' extension booms and easy-to-use hand sweep boom for those hard-to-get-at patches.**

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Specially prepared to answer all your questions about 2,4-D spraying. Write for your free copy on how, where and when to use 2,4-D. It's yours for the asking. Don't miss it!



Eco Weed Sprayers are already acclaimed by thousands of satisfied users. Get YOUR order in early. Contact the Eco dealer in your community right away. He can quickly give you full details and prices on Eco Sprayers and Attachments.

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Mail to: Eco Division, The J. H. Ashdown Hardware Co. Limited, Winnipeg, Manitoba.

THE ECO SPRAYER IS MANUFACTURED EXCLUSIVELY FOR ASHDOWN'S BY SERVICE STATION EQUIPMENT COMPANY LIMITED, WINNIPEG. BACKED FULLY BY ASHDOWN'S GUARANTEE.

# The J. H. ASHDOWN

## HARDWARE CO. LIMITED

WINNIPEG - REGINA - SASKATOON - CALGARY - EDMONTON

... the Boss must be around. Looking for me, Tom?"

Worth bustled up with his usual worried frown.

"Dutch . . . when can we deliver that numbering job?"

"Week, maybe."

"A week! Dutch, be reasonable. They want this in a hurry."

"You know what the job calls for," Zwicker pointed out, "it will tie up the Little Marvel for at least five days."

"I promised it for Tuesday," Worth said wryly.

"What a hope!" Zwicker threw up his hands.

"I thought we'd get it on the press last week," Worth said apologetically. "Anyway, do your best. Night shift if necessary. That's an estimated job . . . overtime will cut the profit to nil . . . but that one account brings in a flock of others. It's got to be ready." He hurried off before Zwicker could mouth the words that boiled to his lips.

"Desk men!" Zwicker exploded. "What do they think we are . . . mind-readers? It's the same every year on this job . . . a last-minute rat race!"

"What sort of job is it?" Randy asked inquisitively.

"Fifteen thousand cards, different number on each card, in type. Run off so many, then change to another unit—and so on—two hundred changes altogether, and lockup between each."

"Isn't there some way you could shorten it—double the run, work out combinations of numbers that are alike?"

"Well, listen to who's telling me how to do a job!" Zwicker's scowl slowly flattened out to a grimace of sly amusement. "Okay, you mathematical genius, take over the job yourself. It's your baby!"

"But press-work," Randy said, in alarm, "I don't . . ."

"Backing down?" Zwicker sneered, "Thought so. You talk big—"

"You're crazy," Randy yelled, "I'll do that job if I have to do it on my head! Just give me a sample of last year's and I'll take it from there."

A HAM sandwich and two cups of coffee sat uneasily on Randy's stomach that night as he prepared to set up the Little Marvel. He knew how to put the form on, how to ink the rollers, start the press, and stop it—and that was all. If anything went wrong . . .

"Let's see . . . one hundred one's in a thousand . . . units . . . tens . . . hundreds . . . it ought to work. Have I got this chase tight enough?" Grunt-

ing, he twisted the keys twice again, then lifted the form cautiously in both hands. It held. "Now. Slide it in. Easy does it. Smash the press and I've had it! Press this, hold this and . . . funny . . . oh-oh, forgot to turn on the power. There she goes! Enough ink, I wonder? Watch the gauge . . ."

The hours passed in slow succession. Unnoticed by Randy, lights went off in surrounding buildings, street noises slackened.

"Quarter past three . . . feel like the only man alive in a dead world . . . six more changes. Look out!" With a gasp, he snatched his hand out of the path of steel grippers. Blood oozed from three long jagged tears and the hand stung like fury. He wrapped his handkerchief around it and hurried on, but with more care.

"Two more hours will do it."

Half-past five.

"Units, tens, hundreds, thousands," Randy counted the sets for the third time. His stinging eyes felt clogged with sand. "Fifteen thousand! It worked! And only fifty changes! I've done it . . . and," he added viciously, "I've done you, Dutchman!"

There was no point in going home. He stretched out on the table.

"Eight months gone," he mused, "and I've been too busy to look for anything. What's that thing of Emerson's about the crowded hour? 'Too busy with the crowded hour to fear, to live or die.' That's me. Am I getting fond of this place? Where's your ambition, Stewart! Lord, I'm dead . . . but the job is done."

ZWICKER didn't say much next morning when he saw the finished job, just grunted and said cynically that there was some good in a college education. And suddenly Randy wondered if it had been a mistake, to do something Zwicker himself couldn't do. Well! Blast him, anyway! He'd do it again . . . just for the fun of doing it right!

That was the day he saw Judy again, suddenly, in the mirror above the lunch counter. He jerked around to find her at his shoulder.

"Hello Randy."

"Judy. Hello!"

"Mind if I join you?"

The clerk rapped the counter impatiently.

"What will it be, Miss?"

"Oh! Just coffee, please," Judy stammered.

"Make it two," ordered Randy. (She looks wonderful . . . I need a shave . . . my hands . . . I won't hide them.) "What are you doing in this part of the town?"





Judy brushed this aside with a gesture and asked if he'd had lunch.

"Just finished."

"Oh. How . . . how's the job going?"

Their eyes met in the mirror.

"It's quite decent work, really," he managed to say, lightly. "I can read upside down and backwards now. I'm getting better acquainted with alphabets and type-faces. Each kind of type, you see, has a character of its own. You can see it, feel it, and use it to make your job convey a thought or emotion at a glance, as if eyes could understand without any effort on the part of the brain. But I'm talking shop."

"Oh, but Randy, it's interesting. Go on."

"You don't want that sugar, do you?"

She laughed and passed it over.

"Sorry. Forgot about your sweet tooth." Her face was alight.

"It might surprise you to know," Randy said didactically, "that *good* typography is considered one of the fine arts. I'm not in that class naturally. But I'm learning something every day. It's a small shop . . . one man can take over another's job if he likes, and has the time. The Army now . . . you had your strictly assigned duties and you did them . . . or didn't! Getting some other guy to do it for you was about the only chance you had to exercise your ingenuity. Even Bay Trust . . . there was no scope . . . at least," he interrupted himself, thoughtfully, "I couldn't see any at the time. Maybe I didn't look hard enough. According to Zwicker . . . that's our foreman, you can like any job if you work at it hard enough. I've been thinking that if . . ."

"If what?"

"If I weren't so old, that is, if I had started younger, printing might have been a good business for me to go into seriously." He stabbed out his cigarette and rose. "Oh well!"

"Do you have to go now?" she cried in dismay.

"Afraid so," he said, very busy sorting out silver, "time to get back."

"Randy," Judy put a hand on his sleeve. "Will you come over some evening and—tell me more about your work?"

RANDY'S fingers trembled over a quarter, discarded it, picked up two dimes and a nickel. (Shall I? Just once . . . to have her in my arms again. Maybe in a year I'd have enough . . . she'd wait. But what if Zwicker . . . and it *could* be years . . . watch yourself, boy! You're thinking of yourself again. Taylor's crazy about her . . . lots of money. This is the time to back out for good and give her a chance.) It cost him an effort to make his tone casual.

"Better not. Nothing's really changed."

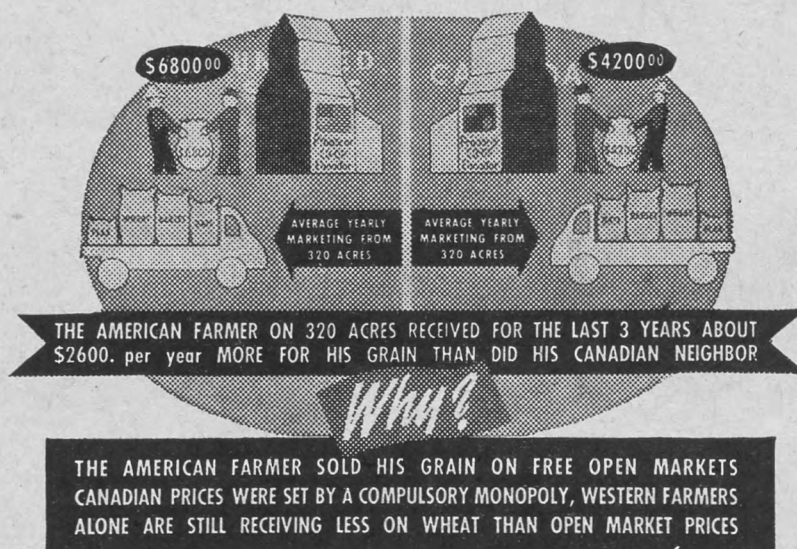
"Yes," said Judy miserably. "Well . . . thanks for the coffee."

He touched his hat, walked out quickly.

He was still half of a mind to turn back as he walked with lagging feet into the plant. Zwicker was talking to a stranger . . . a chap his own age . . .

"Heaven knows," he heard Zwicker exclaim, "we need an experienced man! I'm fed up on amateurs. Come in Monday then. You'll take Stewart's place."

# FARMERS SHOULD REFUSE to play Santa Claus!



IT  
HAS PROVEN  
A COSTLY  
EXPERIENCE

Do you realize that the closed market has cost you, as an average farmer, about \$2,600.00 each year for the past three years . . . a total of some \$7,800.00 in three years? These shocking figures are based on a comparison with what the average American farmer received on the open market, for the same amount of grain, over the same period.

This seems to be a free country for everyone but you. Labour can work for those who will pay the best wages. Manufacturers can sell to those who will pay the most money for the finished product—but YOU, as a farmer, who works hardest of all, must sell your wheat through the Wheat Board at whatever price the Government decides you should get for it! . . . And now, there are those who would compel you to sell your coarse grains on the same basis!

## ACT NOW!

Yours is a powerful voice when you wish to use it and now is the time to make it heard! Send now for your copy of *Dear Dad*. Study grain marketing with an open mind—then write your Member in the provincial Legislature, so that he may know your views.

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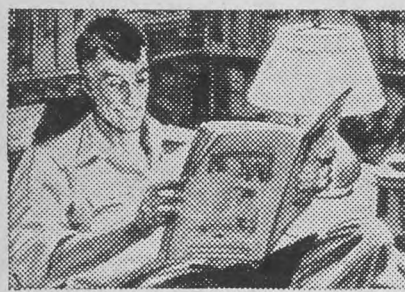
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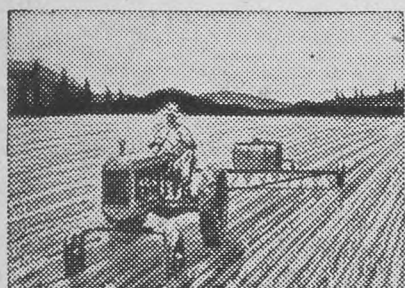
**2-4 DOW**  
WEED KILLER



When I read about killing weeds chemically in crops with 2-4 DOW—it seemed too good to be true.



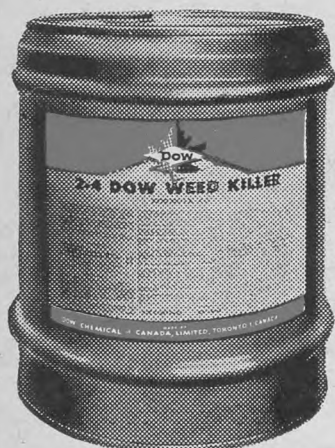
The agricultural representative endorsed this chemical weed control, so I bought a drum of 2-4 DOW.



2-4 DOW Weed Killer—used according to directions—was thoroughly sprayed in my fields.



Free from weeds, my grain crop flourished—and the total yield was really something to brag about!



Seems I grew dollar bills when I stopped raising weeds! You, too, should learn of the excellent results—the bigger crop yield folks are getting by going after weeds with 2-4 DOW. Simply mix and apply 2,4-D Weed Killer as recommended. Kill the weeds easily, effectively, economically.

**See your Dealer today!** Ask your qualified dealer to recommend the right Dow Weed Killer—there are several for specific purposes. Ask your neighbours who have tried 2-4 DOW Weed Killer—ask your agricultural representative—or write to Dow.

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## FIELD NOTE

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CONTROL NOW POSSIBLE  
WITH DOWKLOR

DOWKLOR is Dow's trademark name for a powerful new insecticide, chlordane, recently added to this company's extensive line of insect control products. Both in exhaustive laboratory tests and under practical field conditions, DOWKLOR has proved itself superior to most presently available materials in the control of most crawling insects—including grasshoppers. DOWKLOR is a triple action insecticide, killing insects by direct contact, by stomach poisoning, and as fumigant vapor rising from spray or dust deposits on treated surfaces. A great advantage is that it does not repel or scatter the insects, nor is it dependent on their feeding habits. It has no objectionable odour or colour, leaves no great amount of residue, and is not hazardous to men or domestic animals when used as recommended. Not only has it given outstanding results in control of industrial, institutional and household industrial pests—it has been proved effective for destruction of grasshoppers and other agricultural insect menaces.

It was as if every press in the shop were up full and beating against his brain, boring into his heart though there was only one little hand-press going. Rage surged up and sent his feet plunging towards the office. He faced Worth across the desk, and heard himself shouting—

"Mr. Worth!"

"Eh Stewart? Sit down, man, you're looking quite wild."

"It's not fair," Randy said passionately, "you might at least have warned me . . . told me where I was going wrong. I've tried. I tell you, I've tried! A man doesn't stand a chance in a sweatshop like this, with Zwicker swinging the whip . . . all these months wasted."

"Wasted?" Worth put in mildly. "No. I wouldn't say wasted. What you've learned, no one can take away from you. And you have learned something, haven't you?"

"Yes," gritted Randy, "and you've had eight months' cheap labor! Now you've got to pay the full amount, so you throw me back at DVA. Well, I won't give you the chance to fire me! I quit. As of now."

"Now wait a minute, Stewart. Let's get this straight. Sit down. I can't talk with my neck bent back." Sit down," he roared. "Now. What's all this talk of quitting? Just when Zwicker's talked me into giving you Jackson's place."

Randy felt his stomach give a lurch.

"Zwicker?" he stammered, "Jackson's place? You mean . . ."

"Yes," Worth said emphatically, "Jackson's leaving . . . by request, I might say. It's quite a jump for you . . . apprentice to chief compositor, but Zwicker thinks you can handle it. You like the work, don't you?"

"Yes." Randy nodded, still dazed. "I like it."

"There's a future here, you know. I'm not young—hope to retire in a few years . . . no sons to carry on. You're learning the business from the ground up the way I did. Maybe you've got more on the ball than I had at your age. How'd you like the privilege of buying shares like Zwicker's doing? You won't miss it out of the new pay check. You and Dutch ought to make a good team some day with your business training and head for detail, and his knowledge of printing. It's up to you, of course . . . but think it over."

"Wait! I'm all mixed up," Randy pleaded, "you said Zwicker . . . Zwicker wants me to stay?"

"That's right," Worth's right eyebrow lifted quizzically. "Think he doesn't like you, is that it? Matter of fact, he didn't at first. But after the first day he never said a word . . . saw right away you were in there slugging. Then he was scared to death you'd slack off like the rest, so he kept needling you—hey! Where're you going?"

"To see Zwicker!" Randy said lightly-headedly, "Before I thank him, I want to punch his stubborn head in!"

There was wonder and delight in Judy's blue eyes.

"I've remembered how to fight, Judy," he said, with his arms tight about her. "For you, if necessary! Who do I have to convince?"

"No one," said Judy shakily, "not even me. Oh Randy!"

THE END.



# SUGAR TOMATO

12% to 14% Sugar Content



Think of it, a sweet tomato with many fruits exceeding 12% Sugar. Nothing like it ever before. Note the beauty and symmetry of the long racemes of fruit, often two feet in length. Smaller than regular tomatoes, but their superb sweetness and appearance make The Sugar Tomato the finest vegetable introduction in years. Bears enormously and is in a distinct class for dainty dishes, salads, sauces, juice, etc. Irresistible. Be first to have it. Order now. (Pkt. 15¢) postpaid.

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**DOMINION SEED HOUSE**  
Georgetown, Ont.

## The Little Empire

Continued from page 12

and small barns for them, sold them small amounts of land for themselves and worked the remaining acres in two large irrigation farms.

After the war people of all sorts came from many places! Coal miners from Alaska and Pennsylvania; fruit growers from New Jersey; roustabouts from California. Many came from near Mount Rainier in Washington and established the Rainier settlement. All early settlers got land under contract from the C.P.R. at \$50 per acre, payable over 20 years with interest at 6 per cent; and up to 1934 as many as 1,400 such contracts had been signed for land in the Eastern Irrigation District.

**W**HEAT was a major crop and by 1923, when the post-war slump came and prices dropped, the contract holders found that they could not meet their payments. They organized a contract holders' association to secure a better contract from the railroad. Most of this organization developed through locals of the United Farmers of Alberta, which was strongly organized. The feeling of injustice among contract holders was so strong, in general, that they sometimes spoke of themselves as "slaves of the C.P.R." In 1926 a downward adjustment of land prices was secured from \$50 to \$40 per acre, in addition to some adjustment of back payments.

This adjustment, however, was only a palliative. Branch lines, post offices, telephones, roads and other facilities furnished constant sources of irritation. The minutes of various U.F.A. locals from 1921 onwards would tell a story of constant discussion, interviews, petitions, applications, protests and the use of all available means of ameliorating the situation of the contract holders. Old minute books of the Scandia Local 904 (U.F.A.) record, on January 20, 1923, a resolution of thanks to a merchant at Brooks "for his courage and courtesy in extending credit to the hard-up farmers of this district."

Following a convention in Calgary to consider the "Trego" plan then under discussion, a vote at Scandia was unanimous in favor of the proposal, and at the same meeting "a proposition was discussed that we pin a 'for sale' notice on the gate post if this Trego plan has no effect. A motion made and seconded that we print signs and decide on a certain day to put up said signs. Carried. A motion made and seconded that we will not put up signs unless the C.P.R. will not comply with the plan of the Trego Commission. Carried." The Trego agreement included a statement that unless the C.P.R. amended its contract with the settlers, these would look for land in Bolivia. Signatures were sought and secured for the agreement and minutes of the Scandia Local record that the first name on the list was that of Carl J. Anderson, now general manager of The Little Empire.

From 1928 on, delegation after delegation was sent to Calgary to interview officials in the Department of Natural Resources of the C.P.R. Neither delegations nor innumerable meetings held throughout the district were able to get the settlers anywhere.

By 1931 the depression had become very severe and the Scandia Local approached their federal member for his support of a request from the contract holders for a Royal Commission to investigate the price of C.P.R. land. About 1928 the U.F.A. Locals in the area had formed a district association, primarily to work for a satisfactory settlement with the C.P.R. Late in 1932 a resolution went to this association from the Scandia Local recommending revision, on the basis of land at one-third the then contract price, cancellation of all payments in arrears and payment for land at one bushel of wheat per acre per year for a period of 13 years, with all payments previously made to be credited on the new contract, and water rent at 75 cents per acre per year.

**A** SHORT outline leading up to the final taking over of the Eastern Irrigation District by the water users, written by C. H. Powlett, formerly a solicitor for the C.P.R. and latterly for Contract Holders' Association, points out that in 1933 Carl Anderson had reached the conclusion that owing to the attitude of the Company no satisfactory concessions could be expected unless the farmers themselves were willing to assume the responsibility of delivering water to the land. This had resulted from a hint dropped by D. A. Walker, K.C., of Calgary, on behalf of the C.P.R., who intimated that temporary concessions and changes were of little interest to the Company, but that the latter would be willing "to make very generous terms to the farmers, if the farmers were willing to accept the duties of the delivery of water."

Consequently, in February, 1934, it was Mr. Anderson's own Local at Scandia that first resolved "to go on record to form an irrigation district to buy the irrigation land from the C.P.R. for the sum of around \$5 an acre and sell the water rental for \$2 an acre." Mr. Anderson has told me that this mild statement was the beginning of the work to form the Eastern Irrigation District and that 17 more meetings throughout the district were necessary before the farmers involved were willing to try the venture. A month later (March, 1934), the Contract Holders' Association rejected the idea and insisted that the Company must retain responsibility of delivering water, but asked for further concessions. This stand was rejected by the Company and the "Large Committee" (17 members), which had been appointed, finally adopted the Anderson point of view. Later the Large Committee was made more workable by the appointment of a "Small Committee" of three, consisting of Carl Anderson, Tait White and William Shelbrake.

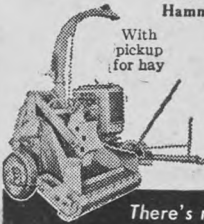
In December, 1934, Mr. Powlett left the service of the C.P.R. and became solicitor for the Contract Holders' Association. During the next two months many meetings were held throughout the district; and the government made an audit for the contract holders, which was available late in February, 1935. As soon as this was studied, an offer was made to the Company and an agreement reached between the Small Committee and the Company in Calgary on March 4. This involved, briefly, the turning over of the entire area with all its capital in-

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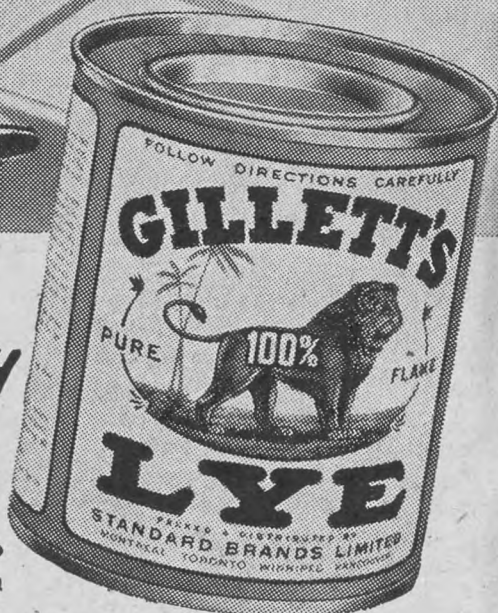
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vestment to the contract holders, in addition to the sum of \$300,000.

Over the years, however, 700 of the original contract holders signed up by the company up to 1934, had left the district. At the time the remainder took over the land there were 780 current contracts; and of these only 146 purchasers owed less than they had originally agreed to pay. The average life of their contracts was about 14 years. About 100 settlers had resorted to quit claim deeds and were renting from the company.

One family came to the district in 1919 with \$14,000 as an experienced, frugal family. With the aid of four sons and by paying everything they could possibly pay between 1919 and 1934, they were able to do no more than increase their debt from \$9,000 in 1919 to \$14,000 in 1934. Carl Anderson and his father were able to scrape through the period by giving half their land back to the company.

THIS then, was the end of a long 15-year period, in which it had become thoroughly established that farmers in irrigated districts could not be expected to pay for the original installation. Under the original C.P.R. contract they had been expected to pay too little for water and too much for land. Now that the responsibility was in their own hands they could adjust contracts and payments according to their own practical experience. Farmers of the district also felt that they could make many economies which the Company either could not, or did not effect. The Company had lost an estimated \$2,123,828 in six years on the project and the contract holders wanted \$400,000 cash as working capital to ease them over the transfer period. Five C.P.R. representatives met the three farmers of the Small Committee in addition to Mr. Powlett at 3 p.m. on March 4, the fateful day. By 6 p.m. the Company had offered \$100,000; by 10 p.m. \$200,000; and by 11.15 p.m. \$300,000. At this point the farmers went into a huddle in the hall and decided that if they couldn't make a go of it with \$300,000 working capital, the extra \$100,000 wouldn't help very much. Actually, they did not need any of it as it turned out and the original \$300,000 is still in the treasury of The Little Empire.

Under the new dispensation, contracts were revised. Land prices on existing contracts were reduced to \$10 per acre on a 12-year contract with interest at 5 per cent. The 100 renters who had lost their contracts were re-established on contract. The legislature endorsed the new settlement and the 780-odd contract holders, who were then operating 90,000 acres of irrigated land, started in to see what they could do. Today the situation is as outlined earlier in the article, 1,300 farmers operating 175,000 irrigated acres. Two-thirds of these now have titles to their farms. Only eight per cent of the contracts were in arrears in mid-1948.

Satisfied contract holders and water users in the Eastern Irrigation District today owe a great deal, which few may now be able to acknowledge, to the pioneers who fought the early battles, and by whose constant efforts recognition was slowly secured for the fact

that the cost of irrigation structures can not be recovered from the price of land. Ultimate success in long-drawn-out struggles for equity and justice nearly always depend on the consistent efforts of a few valiant spirits, backed up by support—sometimes gathered slowly and painfully—from the remainder of the group of interested persons.

Many contract holders today never knew or have forgotten that The Little Empire was, in large measure, made possible for them by men who travelled the district year after year, attending meeting after meeting, sometimes for their bare expenses and often for less. The same individuals found it necessary to go time after time to Calgary to interview the Company. Discouraged by the rejection of their proposals, they sometimes made the long journey home immediately after meeting the Company, because they lacked enough money to stay overnight. Caught in a snow storm, or rain, or stuck in the mud, it was not unknown for them to sleep inside an old jalopy for the same reason. They were glad to do it in a way, but sometimes a little more understanding from others who stood to benefit from these sacrifices would have been appreciated. I met men who today cannot pass a certain prosperous looking farm house between Brooks and Calgary without remembering the night a carload of hard-up, tired and discouraged contract holders from Brooks turned into that house hoping for a night's rest, only to find the lights turned out as they reached the door.

Today the prosperous Little Empire grows crops of many kinds and livestock in large numbers. During the war it proved its adaptability to the business of vegetable seed production, canning crops, field vegetables, tree fruits and root crops. These crops are grown successfully with yields represented by 45 bushels of canning peas per acre, 30 tons of turnips or carrots, 2,000 pounds of radish seeds, 18 tons of sugar beets, oats up to 100 bushels and wheat up to 50 bushels, alfalfa up to 4 tons and 15 tons of pickling cucumbers.

Over a 14-year period the district had an average of 8.6 hours of sunshine per day in the growing season and the period free from killing frosts was 139 days. The wind from May to September averaged 8.5 miles per hour.

Needed are processing plants which will utilize the products of an intensive agriculture such as best suits an irrigated area. This objective has been pursued with energy in recent years and will no doubt be continued steadily. New lands are being settled each year and new purchases made by newcomers to the district. Ultimately the remaining 70,000 acres of irrigable land will be taken up. The grazing lands will finally fall into a permanent pattern suitable to the best use of non-irrigable dry grass land. The struggles, privations and frustrations of a generation ago will be forgotten and those who fought for the rights of farm families may, unfortunately, be forgotten also.



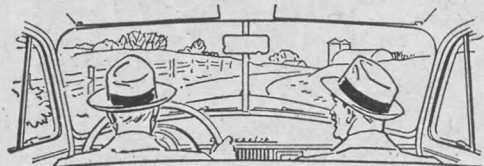


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# FARM YOUNG PEOPLE



[Photo: Nat. Film Board]

It is still six o'clock in the morning, yet Ike Lanier is out with his Albertan dad checking the straw spreader on the combine.

## Swainson's Hawk

PROBABLY more Swainson's Hawks are shot on the western prairies every year than all other hawks combined. This is partly because it is the most common hawk in these regions, and also partly because they are trusting birds, retaining their perch on fence or telephone pole, quite indifferent to man's approach.

These hawks will shortly be returning from their wintering grounds in Argentina and other parts of South America. When they return they will resume their usual summer employment of destroying gophers. "The prairie farmer can scarcely raise better paying stock than a few broods of Swainson's Hawks," says P. A. Taverner, in "Birds of Western Canada." It has been estimated that a gopher will destroy 50 pounds of grain in a summer, and a Swainson's Hawk destroys one to two gophers a day from April to September. We can ill afford to shoot these useful birds.

The hawk can be identified by its large size and the dark brown color scheme on the back, head and upper part of the wings. The hawk's underparts are white, with a streaky brownish band separating the darker breast. Their nest is easily recognizable. It consists of a great bulky nest of sticks located in trees, and contains two or three large, pointed white eggs, marked with light brown.

## Rural Extension Work

IF agricultural extension were going to be summed up in one word that word would be "teaching." In junior clubs it teaches through demonstration and doing—teaching and learning based on the use of hands and mind. It is teaching based on agricultural research and training. Lectures, machinery demonstrations, and the like bring rural audiences the latest findings of universities and experimental stations in the field of scientific agriculture.

Agricultural extension is different from any other kind of teaching because it is so often based on local knowledge and experience. Extension demands the study of the best in local conditions and the teaching of these

ideal practises to all farmers. The program is designed to build the best type of rural young people and to improve agriculture.

C. B. Smith, former assistant director of extension work in the United States Department of Agriculture, says that agricultural extension is what agricultural extension does. "Its normal and primary function is that of teacher, counsellor and educator in all matters affecting rural people and rural life." It is a co-operative venture of which the federal, provincial and municipal governments and farm people are the members.

As a technique of teaching it is unique. In many cases teaching and learning is done by the same individual. The boy or girl who fits a calf or joins a grain club is learning largely through his own efforts, so is not only teaching himself, but is often teaching others by the work he does.

## Know Your Fauna

MOST young people are not as familiar with the local fauna—animal life—in the western provinces as are young people in older settled areas. Farm young people in particular tend to be interested in the birds and animals that they see every day. The ability to identify the different species makes the interest even greater.

Those of us who visit Regina are afforded an opportunity to study well-mounted specimens of birds and animals native to Saskatchewan. The museum there originated in 1906, and, in spite of being almost completely destroyed in the cyclone of 1912, it has grown fairly steadily since. The object of the museum is to bring about an understanding of the birds and animals native to the province.

The exhibits are many and varied. Birds, animals, insects, reptiles and fish are exhibited. All are shown as nearly as possible in their natural state. Included in the exhibit are examples of Indian beadwork, tools and weapons. An Indian camp scene has been set up complete with teepee, Red River cart, and a white trader. The museum owns two of the 10 known whooping crane eggs to be found in museums anywhere.

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# The Birth Of The Film

*Four English investigators and a Frenchman preceded Edison in the early development of movies.*

by HENRY GUTTMANN

PETER MARK ROGET is widely known through the "Thesaurus of English Words and Phrases." Roget compiled this work, which is still a best-seller, after having retired from a very full life of scientific research and discoveries.

Less known is all that he did before he retired. He was equally brilliant in mathematics, electricity and optics. In recognition of his achievements he was made Secretary of the Royal Society in 1827 and he remained at this post for not less than 21 years.

On December 9 of 1824, he gave a lecture to the Royal Society, in which he explained the optical illusion called the persistence of vision. While observing the wheels of a moving vehicle through Venetian blinds, it appeared to Roget as if the spokes, which he knew were straight, were bending. The bent wheels of the so-called "Persian waterwheel" would, on the contrary, straighten out if looked at in a similar way.

The explanation given by Dr. Roget was that the retina of the eye retains the vision of an image for a fraction of a second (about one tenth) after it has actually disappeared. If images follow very quickly, so that the retina has no time to get rid of the preceding image, they will "mix," and in the case of the spokes, the result will be an optical illusion by which straight ones appear bent, while bent ones look straight.

A year after Roget's lecture, another London physician, an inventor of many clever appliances, such as a safety-bar, Dr. John Ayrton Paris, constructed a toy-like instrument, the thaumatrope, in order to demonstrate and popularize Roget's findings. The thaumatrope was a disc not much bigger than a half-crown. On the two sides of the disc there were two complementary pictures, such as a horse and rider. With the aid of two strings attached to it the disc was brought into rotation. While the rotation was gaining in momentum, the rider could be seen jumping onto the horse, where he remained until the strings relaxed. When this happened, the rider would jump off the horse and regain his separate existence.

Few of the people who played with the thaumatrope more than a century ago, and later with its more elaborate variations, grasped the philosophical and technical significance of the principle underlying it. Philosophically, it made people doubt the value of their perception, thus contributing to the spiritual forces which destroyed the ideas based on absolute principles. In technique, it ultimately led to the invention of motion pictures.

The man who contributed most to this invention came from Surrey. Edward Muggeridge was a native of Kingston-on-Thames, which he left a hundred years ago. He settled in California, changed his name to Muybridge and became head of the photographic survey department of the State of California.

A curious incident led Muybridge to make his first photographic studies of animal locomotion. The ex-Governor of California in 1872, Leland Stanford, was a race horse owner. In the course of an argument with a friend

he maintained that horses would jump with all fours in the air. The argument ended with a wager of \$25,000. Muybridge was called in to find the right answer. He took dozens of photographs of horses running forward and backward on the race track of Sacramento. They were not good photographs, rather silhouettes, but some of them were good enough to win the wager for Leland Stanford.

Leland Stanford having won his point became interested in animal locomotion, and commissioned Muybridge to carry on his scientific investigations. The next step was to obtain not individual shots of an animal in motion, but a series of shots, each

pictures. Under Muybridge's inspiration, Marey invented a "photographic pistol," with the aid of which even the movements of birds in flight could be recorded. Marey further invented a lantern, which comprised all the essential components of the modern screen projector.

After his return to America, Muybridge worked for the University of Pennsylvania in Philadelphia, which supplied him liberally with the means required for his further investigations. On some days he made 750 exposures—with the dry plate, which had meanwhile been introduced.

Then Muybridge published his *magnum opus*, containing more than



[Photo by Helen Urchit, Heffley Creek, B.C.]  
*Apprentice cowhand.*

representing a successive phase of such movement. Leland Stanford placed his stud farm at Muybridge's disposal. Muybridge erected 24 cameras, whose shutters operated electrically by 24 lengths of thread stretched across the course, in the path of the horse. Soon after, Muybridge improved his technique, extending his investigations and tests to other animals and also human beings.

In 1878, Muybridge published his first book "Animal Locomotion;" but he continued his work, determined to make his results accessible to the public at large by means of projection. The problem was how to project the entire process, i.e., not a series of pictures individually but the actual movement.

THE individual pictures represented an analysis of movement; what was now required was a synthesis. Muybridge found the solution. He made slides of his series and invented an improved thaumatrope to which he gave the name zoopraxiscope. It projected the slides in the same quick succession in which they were taken. He showed them in America to the public in 1893, 69 years after Roget's Royal Society lecture. Muybridge himself described the apparatus as "the first instrument ever invented or constructed to show the synthetic reconstruction of movement photographed from real life."

Long before that Muybridge had gone to Europe and found a kindred spirit in Jules Marey, a Paris scientist who had himself carried out experiments in connection with moving

20,000 individual pictures. The book cost nearly \$600 per copy. Eighty thousand more pictures were left unpublished and are now in possession of the University of Pennsylvania.

Working on ground prepared by Muybridge, Augustin le Prince, of Leeds, succeeded in making a camera to photograph moving pictures. He obtained an American patent for it in 1886. In 1888 he obtained a British patent for machines with a single lens as well as with a multiple lens. With his one lens camera, he photographed moving pictures at the rate of twelve per second, and also made a successful series at twenty per second showing traffic on Leeds Bridge. All these pictures were taken on strips of sensitized paper.

Early in 1889 he began to use transparent celluloid film. In the meantime, he had been evolving a new projector. It was illuminated by an arc-lamp. With his projector he showed his films privately on a screen, using for the first time perforations which regulated the movement of the film.

In August 1890, Le Prince went to France to see, to patent, and other business. His financial resources were exhausted, but in his letters from France there was no trace of undue worry. He went to see his brother, a well-to-do architect of Dijon. Nobody knows what happened at the meeting of the two brothers. Le Prince was last seen entering a train for Paris on September 16, 1890. From that time he disappeared completely. Neither Scotland Yard nor the French police

found the slightest clue. His luggage and business papers disappeared too. Moreover his patents became worthless, as nothing could be done with them until the statutory period of seven years had elapsed, when by law his death would be presumed and his affairs handed over to his heirs.

During these seven years others entered the field of cinematography and reaped the harvest sown, among others, by Le Prince.

On June 21, 1889, William Friese-Greene obtained a provisional patent, completed on May 10, 1890, on cinematography. In view of Le Prince's disappearance, this was the first legally valid patent of cinematography. Historically, Le Prince was the pioneer.

IN 1891, Edison patented the kinesiograph, a peepshow, using films with phonograph attachment. This first "talkie" was, from the cinematographic point of view, a step back in comparison with Le Prince's achievements. Edison's attempt to secure priority over Friese-Greene failed, the U.S. courts having pronounced for Friese-Greene.

Jules Marey, in Paris, continued his researches in the right direction and re-invented all of Le Prince's inventions. About 1893 he possessed solutions for nearly every cinematographic problem yet unsolved. He refused to take out patents for his discoveries or to exploit them commercially, but he did not object to his friends and pupils doing so. Prominent among them were the brothers Lumiere, wealthy manufacturers of photographers' supplies. They seized the opportunity and made use of their vast resources to overcome any difficulty which might have discouraged a scholar with but modest means.

They made their first films in 1895. These were shown in a Paris basement, a kind of fun-fair on the Boulevard des Capucines. An entrance fee of one franc was charged. Entertainment people made them offers for a license on their patents, but the Lumieres declined to sell. As honest men they did not feel able to accept money for something in which they saw no future. They explained, "Once the people's curiosity about the new invention is satisfied, nobody will pay a sou for a motion picture."

Early in 1896 the Lumiere brothers went to London and gave in the Regent Street Polytechnic the first public film show ever seen in Great Britain.

Against the advice of the Lumieres, a French showman, George Melies, began to produce entertainment, documentary and even publicity films, as early as 1897. In 1900 he was a full-fledged film magnate. In 1909 he presided over the international congress of film manufacturers, held in Paris. Pathe, Gaumont and Eastman were among the delegates. But Hollywood was not yet represented. The first Paramount picture was not made until 1912. A world war, No. 1 on the list, had to come in order to make France and Europe lose their birthrights to the profit of America and to engross Hollywood to its well-publicized, gilt-edged proportions.



## Nickel-Cadmium Storage Batteries

*Sometimes spoken of as "lifetime batteries," engineers declare that they have some short-comings which make them unsuitable for vehicular work in Canada.*

**D**ELEGATES to the January convention of the Farmers' Union at Calgary had their curiosity aroused by a resolution that called for more information about nickel-cadmium batteries, and their introduction into the province in case the claims put forward for them proved to be correct. The claims included statements such as these: that nickel-cadmium batteries were in wide use in Europe; that they were no more expensive than the lead-acid batteries in use in Canada and the U.S.; that they required the addition of water only once per 8,000 miles of car travel; and that they would last indefinitely.

Technical journals have devoted quite a bit of space to this subject within the last year, although nickel-cadmium batteries have been familiar to our manufacturers ever since they were first announced by Swedish engineers in 1900. Writing in the New York Times of December 1948, Bert Pierce, automobile editor of that great paper, states that the principle on which they operate, and the designs which have come into use are sound, and that they have some unique qualities. In their present state of perfection, however, they are no substitute for use in cars.

The nickel-cadmium battery is 50 per cent heavier and larger than the lead-acid batteries in use in Canada. It requires more rather than less water for a given discharge of current. If it is refilled less often it is because the container holds more liquid.

Lack of material is another restrictive factor. The world output of cadmium, which is found only in combination with zinc, was less than 5,000 tons in 1947, and more than two-thirds of it went into electro-plating processes, and another 14 per cent into bearings. Next to gold it is the rarest metal, being rarer than tin, antimony or silver. Even if the whole American output of cadmium, which is 80 per cent of the world's total, were put into batteries it would make only 500,000 of them. The 1947 production of automobile batteries alone was over 24 million. Because of the relatively higher cost of cadmium, \$2.00 a pound, as against 21½¢ for lead, nickel-cadmium batteries cost about five times as much as the lead-acid type.

A technical paper was read before the American battery manufacturers' group at Chicago, November 11, 1948,

by Dr. E. Willihnganz, a research engineer. He produced experimental evidence to show that at low temperatures the output of nickel-cadmium batteries was sharply reduced. Likewise, he added, there is no simple means, such as a hydrometer, for determining the charge of this type of battery. He judged the life of them to be about four years as against 18 to 36 months for lead-acid batteries.

Dr. Willihnganz made a special point out of the fact that although nickel-cadmium batteries had been known in Europe for over forty years, no car manufacturer had ever specified them as initial equipment. Their principal use has been for lighting plants. They have some special qualities which may make them useful for standby plants such as are maintained for railway signals, telephone systems, circuit-breaker operation in power stations, burglar alarms and other uses where batteries may be charged at an extremely low rate, just enough to keep them in a healthy condition.

Another speaker at the same conference was Dr. M. Schmidt, chief engineer of a leading French battery concern. He claimed that nickel-cadmium batteries "had done a good job in France" for lighting, stationary uses, for hand-lamps and for motor vehicles. He confirmed, however, that at 300 amperes the cadmium battery will give about two-thirds of the capacity of a lead-acid battery of the same unit of weight, when used at ordinary temperatures. At 14 degrees above zero, the output of the cadmium battery is cut to one-third. At zero its performance is worse still.

French car manufacturers, he stated, did not instal cadmium batteries in their cars. But in northern France where roads are now very rough as the result of invasion and lack of upkeep, truck drivers prefer to replace their standard equipment with cadmium batteries because they can resist vibration much better than the lead-acid batteries can.

Dr. Schmidt reported that German engineers have been improving their cadmium batteries but he did not think that the new positive plate put out by them would prove to have very long life. He agreed that we will have to wait a long time before makers of automobiles will instal cadmium batteries in their cars.

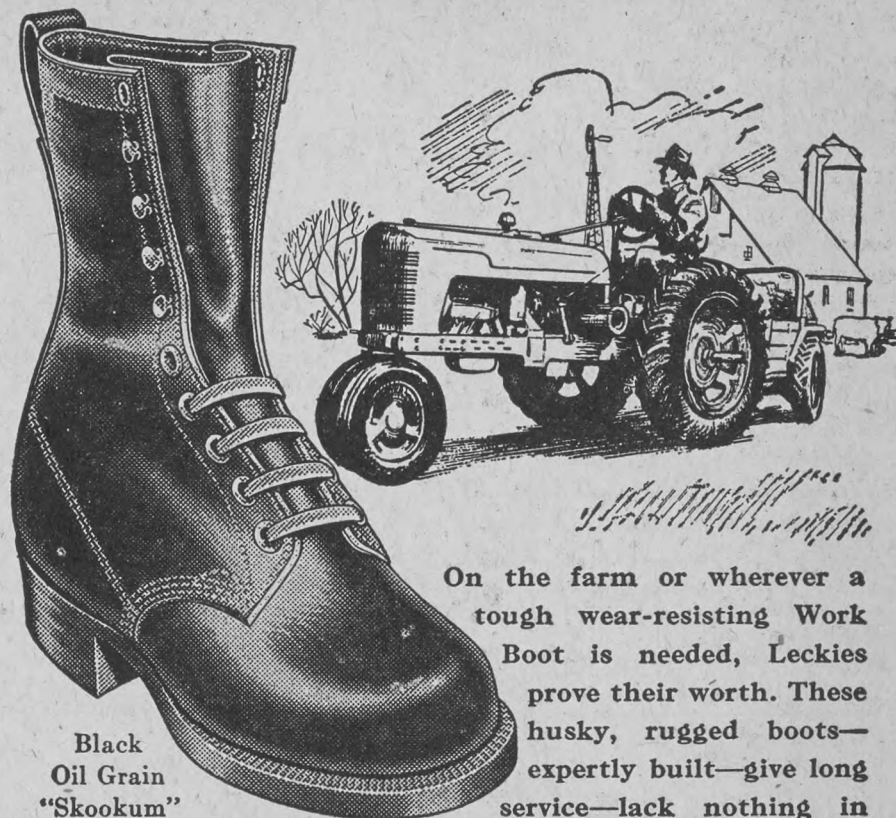
It is reported that Canadian army engineers have the cadmium battery under test but no conclusions are available.—P. M. A.



Supper for two.

[Courtesy of J. A. Humphrey, Dodsland, Sask.]

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## Selling Apple Crop

Continued from page 7

are whisked into cold storage buildings. Experiments have shown that every day an apple is kept out of cold storage after picking takes ten days off its keeping life. So the Okanagan is strong for cold storage plants, to maintain the keeping quality of its fruit, and today they have cold storage capacity for some seven million boxes—almost triple what it was only seven years ago, and still increasing.

APPLES are packed by trained workers with modern mechanical graders, and B.C. has always used the box pack—handier, more appealing package than the barrel. Practically all apples are individually wrapped, and rigid inspection prevents any “salting” of the pack. Only by accident will a box of B.C. apples vary in quality from top to bottom, and the results of all this care in growing and packing is that the quality is uniformly high.

As for marketing, the Okanagan set-up is unique in North America—perhaps in the world. Every grower is a member of the British Columbia Fruit Growers' Association, which this year celebrated its sixtieth anniversary. Through this, growers control the B.C. Fruit Board and B.C. Tree Fruits Ltd., which in turn control growers, packing-houses, and handle all sales.

The latter, however, are much newer than the B.C.F.G.A. As recently as the depression 'thirties, the Okanagan fruit industry was dominated by the packing-house companies, both privately owned and co-operative. In good times these worked with jobbers to raise prices—and profits—so high that sales often collapsed through consumer resistance. In hard times they sold the fruit in competition with each other for whatever they could get, often cutting prices so low that they nearly cut the farmers' throats as well.

Things had got so bad by 1939 that the fruit growers, at their memorable golden jubilee convention of that year, agreed to set up a selling agency, Tree Fruits Ltd., which would represent all growers and all packing-houses, and handle all sales “over one desk.”

The experiment worked—marvelously. So well that although it is entirely voluntary—new agreements are signed every three years, by growers and packers, without compulsion, to keep the organization going—it has 100 per cent coverage of the fruit industry of the valley. Growers grouse about it a bit, of course. Some complain that it hasn't “teeth” to put down any possible rebellion against its ordinances, and demand a federal marketing act to give it powers of compulsion. Others have protested because, in these times of peak prices, Tree Fruits Ltd. has not charged “all the traffic will bear.”

Prices have been high enough for the consumer, however, a fact which Tree Fruits' able sales manager, Dave McNair, has always kept in mind. Consumer resistance can ruin sales in short order. Last year, for instance, the unorganized American apple industry stuck Winesap prices sky-high; and sold none at all till they dragged them down again to give-away levels. And all the while Canadian Winesaps

were selling steadily, not at a fantastic price, but a very satisfactory one.

The vast majority of growers are highly satisfied with their set-up. Why shouldn't they be? Here are farmers actually setting the price of their products—and getting it. Here are farmers in a position to talk turkey to jobbers, wholesalers, railway shipping companies, even governments—just because they have placed their 12-million-odd packages of fruit per year under a single control and made one impressive \$25 million-a-year business out of a dozen or more little ones. It's a farmer's dream come true.

And it has certainly got the results in marketing. With one-desk control, Tree Fruits Ltd. can keep its fingertips on fruit throughout the growing area, knowing its quantity, quality, and maturity down to the last apple-pip; and at the same time, have a thumb on the market pulse all over the country.

This it does, not through travelling salesmen or private agencies, but through the regular channels of established jobbers and wholesalers. Because Tree Fruits Ltd. has been able, through their unified control, to furnish the jobbers with whatever they ordered and at stipulated times, the latter are giving co-operation in return; and wherever there is an opening for more fruit, a message goes to Kelowna, where Tree Fruits Ltd. offices are, and they shoot the fruit in.

If a prairie city has a run on Delicious, extra carloads are routed thither in plenty of time. If Montreal shows unexpected interest in Extra Fancy Newtowns, Tree Fruits takes care that they get all they want to buy. Nor does this market awareness stop at the Canadian border. American markets are quite receptive to high quality Canadian fruit at certain times, and Tree Fruits make sure that at those certain times, the fruit is there.

Last year they sold one and one-half million boxes in the United States. And when a dock strike paralyzed shipments from American Pacific ports overseas, Tree Fruits was right there with modest efficiency and plenty of apples. One hundred and five thousand boxes of B.C. apples were shipped in place of American ones to Hawaii and the Philippines as a result. Other sales were made to Brazil, Hong Kong, South Africa, and Malaya—Tree Fruits Ltd.'s sales contacts are world wide.

SO far, the Okanagan apple grower has done pretty well without the British market. How long can he keep it up?

That, of course, is the \$16 million dollar question. The various markets which took a half-million boxes of B.C. apples last year have all imposed import restrictions which close them for future sales. Other small markets may crop up, of course; but main sales of Canadian apples, evidently, must be in Canada, and to the United States.

Can we sell more, in both countries? A lot of Okanagan farmers think we can. Canadians and Americans average less than a box of apples per year per head of population; but they eat large quantities of oranges and grapefruit. Why shouldn't Canadians eat more of their home-grown fruit instead? And, if Americans can invade our apple market with their citrus

(Turn to page 69)

# Farmers!

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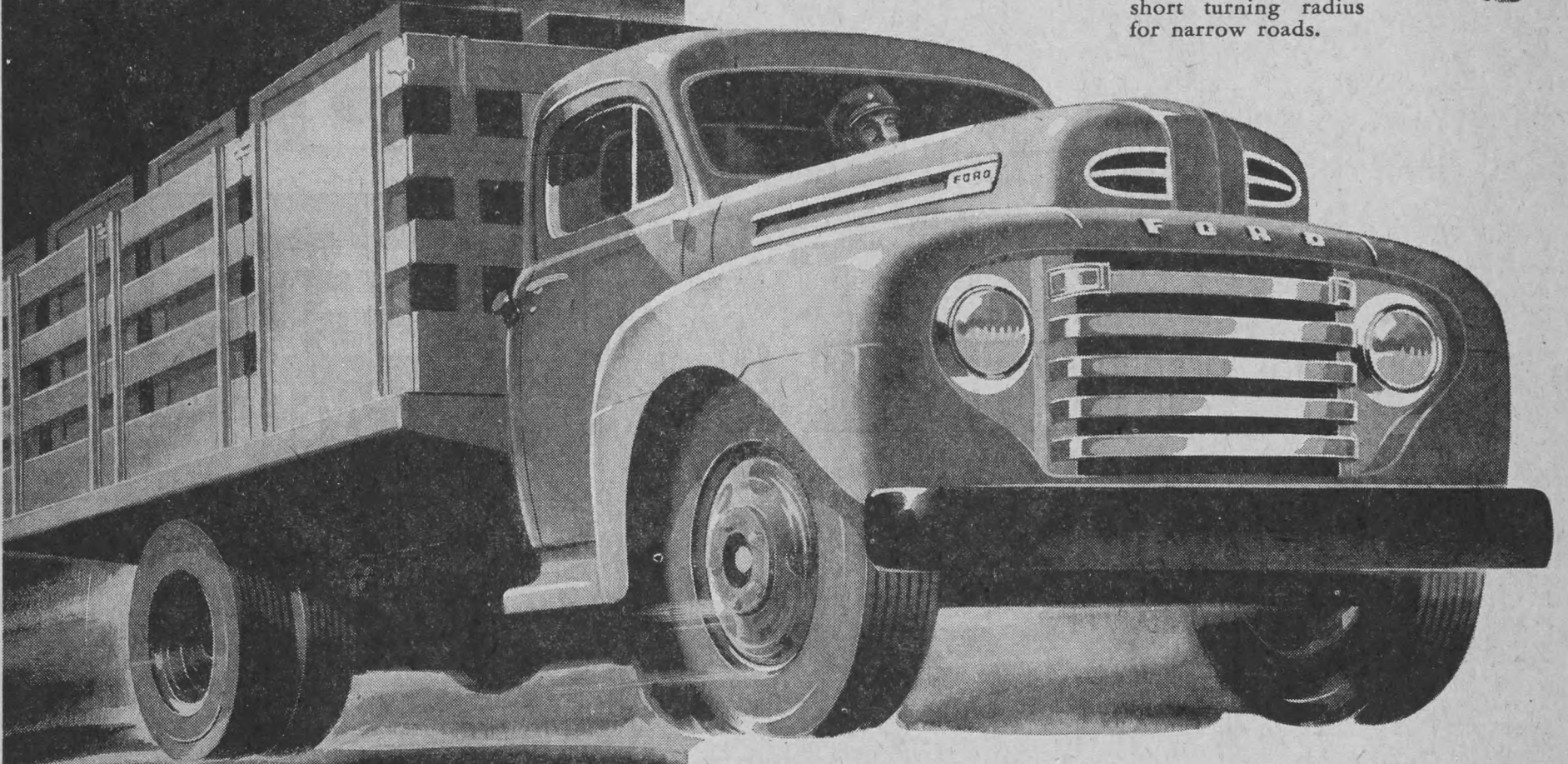
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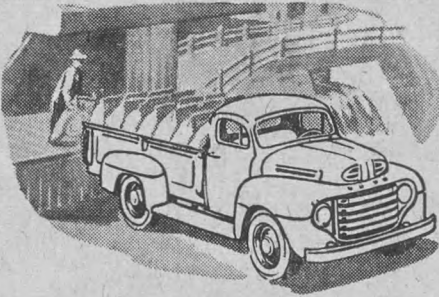
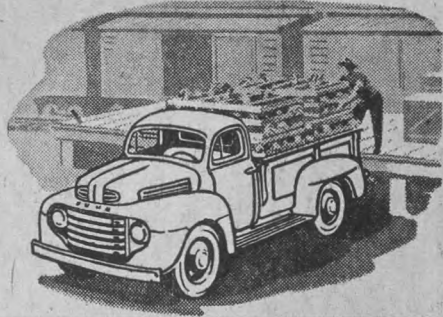
\*BONUS: "Something given in addition to what is usual or strictly due."

—Webster's Dictionary.



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Every dollar saved is a dollar added to farm profits. That's one reason why farm owners choose an economical Ford F-47 Pickup Truck.



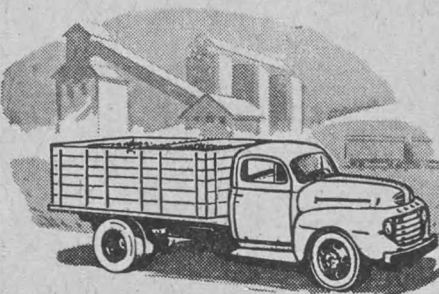
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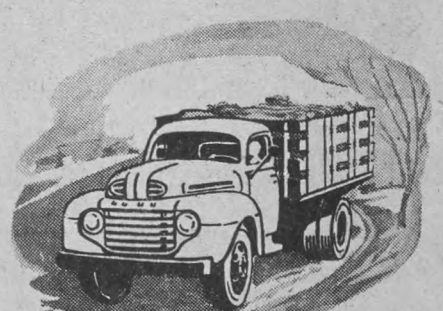
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used in 45 countries . . .*

- **INCREASE YIELDS**  
by removing the competition of weeds to the utmost extent possible. Weeds rob the land of moisture and plant nutrients.
- **REDUCE DOCKAGE**  
by killing weed seeds. A clean crop is a more valuable crop.
- **REDUCE HARVEST COST**  
by threshing "the maximum of grain and the minimum of weeds."
- **CONTROL PERENNIAL WEEDS**  
by reducing the formation of perennial weed seeds.

### SAVE MONEY!--SAVE WASTE! WEEDONE PRODUCTS

Cost you LESS this year

**WEEDAR 64.** AMINE. 76.8 ounces 2,4-D acid content. Per gallon **\$9.85**  
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**SAVE WASTE--WEEDONE WEED KILLERS**  
Are available at the above prices in the handy waste-saving one-gallon containers.

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of Windsor, Ontario and Ambler, Penn.  
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OF FARMER  
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DISTRIBUTORS IN WESTERN CANADA OF THE ORIGINAL WEEDONE 2,4-D WEED KILLERS

THE  
ORIGINAL  
FARMERS'  
COMPANY



fruits, why can we not invade their citrus markets with our apples?

Skilful advertising can do much. Already much has been done, thanks to having a single big organization in place of many small ones. Thus, B.C. Tree Fruits has been big enough to pay for full-page colored ads in the big national Canadian magazines, till the girl holding out the apple has become almost as familiar as Old Dutch's blue-and-white scrubwoman, or Elsie the Borden cow.

A colorful display at the Royal Winter Fair in Toronto attracted many visitors last December. Advertising campaigns in big Montreal stores, with well-planned displays and banners, have been found surprisingly successful. The idea of small, attractive packages for people who want box quality without box quantity, is being considered; five or 10-pound containers, say, of super quality fruit for modern super markets.

Then there are the possibilities of dried apples and of apple juices. Nova Scotia is ahead of B.C. in the former, and citrus fruits provide stiff competition in the latter. But there is no reason why apple juice, especially the new vitamin-C fortified, and "apple-lime" varieties, should not be as popular as citrus juices, if properly advertised.

If means of advertising can be found to make the people of North America more apple conscious, there is

population in plenty in Canada and the United States to take care of all the apples that both countries can grow, even if the British market remains permanently lost to us.

Many believe that it is not; that currency difficulties will be ironed out and we will once again be able to sell to the Old Country. Some, including the Okanagan Member of Parliament, O. L. Jones, maintain that the Canadian government should finance shipments to Britain even if the latter cannot pay for them with dollars, and let Britain pay in sterling and keep the money frozen to our account, just to hold our place in the British market. Others believe that a barter arrangement could be worked out whereby Canada would buy from Britain steel goods and other items now imported from the United States, and send them apples in exchange.

Even without any British market, however, Okanagan growers believe that as long as they grow top quality fruit, a market can be found for it somewhere. If Nova Scotia goes in for a quality pack, the same will go for them.

There are certainly enough people on this continent to eat all the apples we can grow, if they only realized how good they are; the Okanagan intends to do its full share of letting them know.

## Saskatchewan's Tractor Museum

Old time machines collected at North Battleford.

By JAS. WRIGHT

WHEN the scrap-dealer calls at your farmyard, think twice before you sell that obsolete piece of old machinery, or oldtime vehicle long unused. What you may have there rusting at the edge of the field or gathering dust and sparrow lime in the shed, could be just what is needed to fill a historical gap in the manpower, oxpower and horsepower collection displayed by the Western Development Museum, part of which is currently housed in a former R.C.A.F. airplane hangar at North Battleford, Saskatchewan.

First and only museum of its kind in North America—maybe anywhere in the world—this museum aims at having a representative lineup of the technological instruments which were responsible, at the source of production, for opening up the northern plains of our continent to agricultural settlement.

Since the fall of 1947 when Joe Phelps initiated this unique museum project, several hundred pieces of historical value have been accumulated, most of them donated by former owners. Donors of large exhibits will be remembered by a chrome plate carrying his or her name and address, together with a brief history of the person and implement donated, and the plate will be permanently attached to the machine on exhibit.

Mention here of some of the steamers now at North Battleford will bring back memories to oldtime threshmen: Case 32-110, Sawyer-Massey 25-75, White 28-80, Aultman Taylor 25-75. And here are a few of the gas tractors being preserved: Waterloo Boy 12-24, Happy Farmer 12-24, Grain Growers T.C. 12-25, Plowman 15-30, Saunderson 8-16, Titan 10-20, Rumley 25-45.

Going away back to 1900 and before is the treadmill powered by one to three horses walking up a moving incline. This was heavy work for the horses as indicated by the furrows their hoofs have worn in the hardwood tread-timbers. Small grain separators were belt powered from treadmill units, a technological advance over the flail whose motive power was a man's hands and strong back.

There is a Massey binder of the 1890's, manufactured by Massey before the amalgamation of Massey and Harris. It has an all wooden bull-wheel with wood spokes set right in the wooden rim. The very early type bundle carrier, curved like a section of hay rake, opens outward and upward to drop the sheaves.

I SAW those two interesting relics in Saskatoon. Along with many other ancient items they are in part of a warehouse used by the Saskatchewan Federated Co-operatives. This has become a museum workshop for this winter equipped with a lathe to turn out missing parts. Reconditioning is going on under the enthusiastic direction of gunsmith Eddie Mather, donations are restored insofar as feasible to their original condition. E. R. Potter, Saskatoon City Police garage mechanic, whose hobby is collecting data on early machines used in western Canada, gives valuable and voluntary service. Mr. Potter's old implement catalogs indicate the colors of original paint jobs when these cannot be ascertained by scraping down to what was there when the piece left the factory.

Now suppose you have, let's say, a Case steamer that was new in 1912. One of those dinosaurian mobile

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LEADER IN MAINTENANCE CHEMICALS

monsters on iron wheels eight feet high, rated 110 H.P. on the belt; the type that pulled 14 bottoms leaving 14 fresh black rows of sod for the inland gulls to pick in its wake, and was said to have been known to break an acre of virgin prairie in seven minutes. The original paint job has long since disappeared. Maybe some parts are missing. Wouldn't you like your old friend of pioneer breaking and threshing days restored to working order, decked out in an authentic paint job and preserved for your grandchildren and posterity in general to see?

There is a case steam tractor, like the one described, in the Western Development Museum at North Battleford. It once belonged to George Langley, pioneer Saskatchewan farmer who became Minister of Municipal Affairs, and was subsequently elected vice-president of the Saskatchewan Co-operative Elevator Company.

To be reconditioned in Saskatoon is a two-seated surrey owned by another well-known pioneer farmer, W. R. Motherwell, who became minister of agriculture at Ottawa and a real



*This ancient car is now in the Saskatchewan Museum. The occupants in the picture are: driving, owner Fred Green of Moose Jaw; beside him, E. N. Hopkins, then president of the Sask. Grain Growers' Assn.; behind Hopkins, E. A. Partridge of Sintaluta. Date probably 1909.*

pioneer in the farm movement. The horse-drawn vehicle has square built carriage lamps on each side, with elongated cone-shaped containers for the oil that supplied the wicks.

THERE is a Russel car (the very one which is pictured) complete with carbide gas lamps and resplendent with brass, back end curved as a buggy seat. One of the first four-cylinder jobs on the market, it was equipped with pneumatic tires and started on dry cell batteries and a crank. It runs too; was a great attraction in the oldtime section of a parade in Swift Current recently. This horseless carriage was owned by Fred Green when he was secretary of the Saskatchewan Grain Growers' Association formed in 1906. This automotive antique carried Fred Green, J. B. Musselman and J. A. Maharg on an organizing crusade.

An early four-cylinder job is the Marshall gasoline tractor, manufactured in Gainsborough, England, and assembled in Saskatoon. There is an Avery farm truck which the manufacturers equipped with extension rims so it could be converted for use as a farm tractor.

Initiator, organizer and spiritual spark plug of the machinery museum project is J. L. (Joe) Phelps, former minister of natural resources and industrial development in the Saskatchewan Government. Ardent enthusiast for the preservation of the mechanized giants and midgets that ruled the plains of yesterday, he personally spotted many desirable museum pieces lying idle and uncared-for in farmyards. He wants to hear about likely pieces from anyone who may have them, regardless of province or state. The museum has advertised in weekly papers as far afield as the Kootenay and Cariboo districts of British Columbia in an effort to locate a surviving Wells-Fargo stage, the famous overland coach which was the fast passenger and express mode before the railway came to end the cattle domain and usher in the kingdom of wheat to the open plains region.

Maybe a neighbor has a Hart-Parr three-wheeler rusting in his yard. Or something else just as good or better to help complete the museum story of prairie Canada's technological advance from oxpower to self-propelled outfits

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Install a reliable  
**KOHLER**  
*Electric Plant*  
for all the **LIGHT**  
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**Independent or stand-by service for:**

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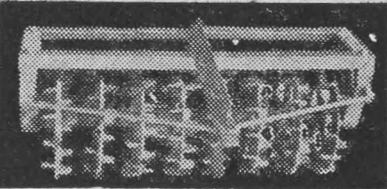
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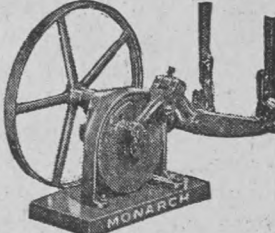
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## Books

Continued from page 8

The books on the Public Information Library shelves are primarily non-fiction. There is also a section for juvenile readers. The library carries on its shelves over 12,000 books, on such subjects as agriculture, engineering, business, home economics, languages, philosophy, psychology, religion, history, literature, geography, travel, biography, law, and so on. Books are available on almost every subject in which a person might be interested.

**T**HE cost to Saskatchewan readers of using this library is the cost of the stamp on the letter requesting an application form. When this form is completed and returned the member can borrow books, one at a time, and is permitted to keep them for 30 days. The borrower does not pay postage either way on books borrowed.

This arrangement apparently appeals to a lot of people. In 1947 about 35,000 requests for books were received by the library. In other words, the library staff mailed out an average of nearly 100 books a day to persons in Saskatchewan living in points other than Saskatoon, Regina and Moose Jaw. These cities have their own large libraries so are not extended the provincial library service.

It is interesting to glance at the type of books most in demand. Heading the list are books on useful arts—arts and crafts, agriculture, engineering, home economics, gardening, health—with 6,964 borrowings. Fine arts—art, music, drama, books on recreation—came second with 3,564, with travel books, at 3,542, a close third. Following these three came biography at 3,476; literature at 3,208; social sciences—economics, political science, psychology, and so on—at 2,935; history at 2,431, and ethics and philosophy at 1,454. Six hundred and fifty books on religious topics were borrowed.

In 1946 the number of members enrolled totalled 19,513. In 1947 a total of 1,154 new members began to borrow books. Again, it might be interesting to glance at the occupations of these new members. Four hundred and twenty-five of them were students, 257 were farmers, 232 were housewives, 13 were clergymen, and the same number were railway agents, nine were laborers, eight were clerks, four were secretaries, three were postmasters, three were mechanics and one was an engineer. It is probably safe to assume that a majority of the students and housewives were on the farm, which will give the farm borrowers a tremendous lead over their small town counterpart.

**T**HE provincial government is now interested in introducing Regional Libraries throughout the province. None has as yet started operations, though voting is now taking place in a northern Saskatchewan area with respect to a Regional Library. If organized, the regional library would serve 13 rural municipalities, the towns of Beatty, Kinistino, Melfort, Nipawin, Shellbrook and White Fox and the city of Prince Albert.

The principle of operation would be a centrally located regional library with branch libraries located throughout the area. Books would be circulated among the branches, so that each

area would have access to a constant supply of new books. The minimum cost of this library service would be 50 cents per capita in the area served. The provincial government is prepared to meet part of this cost.

Ten or twelve regional libraries would be needed to serve the province. In view of the great success achieved by this type of library service in British Columbia and Prince Edward Island it is felt that any efforts required to get them approved by the regions to benefit, and then organized, is well worth while.

Work is also being done to improve the libraries in the schools throughout

the province. This is being done in particular in the larger school units. It is felt that if school children are to make rapid strides they should have ready access to the best books suitable for their age group.

By its very nature farm life is isolated. It is general knowledge that people on the farm are frequently avid readers, and that, taken by and large, they read a great variety of books. The library facilities are so organized that no man, woman or child, in the province of Saskatchewan needs to be deprived of books of the number and type desired. Books can be had for the asking.



[Sask. Film Board Photos.]

*This Travelling Library in a country home serves as a lending library for the local district.*

## Nature's Own Radar

*A zoologist provided the observations which won the Battle of Britain.*

by CLIVE BEECH

**B**ATS are among the strangest of living creatures, eerie in appearance and habits, mystifying in all they do, and generally suggesting the supernatural. But in spite of these things bats are far from uninteresting, and although we talk of people being 'as blind as a bat', they are not really blind.

Most arresting of all, they have been using what we now proudly call radar, or radio-location, ever since time began. The closest parallel imaginable to the principles of radar is a universal faculty of all bats.

Man comes along with his inventions, thinking himself lord of all creation, yet in these tiny flying animals, the use of radar is part and parcel of their everyday existence. This recent discovery on the part of scientist-naturalists is certainly startling, and it provides what is perhaps the most remarkable unveiling of the secrets of nature that has occurred for many years.

Just what have the bats got that man has taken centuries to discover for himself?

Well, to begin with, the erratic flight of bats after dark has puzzled men for a very long time. Watch a bat on a warm, summer evening, just as it is getting dark, and notice how uneven and tumbling its flight is. Never for a moment does it seem to keep on a straight course. The little

creature is, of course, searching for small winged insects, upon which it lives. But how does it see them in the failing light, and how at all when it is quite dark?

In the answer to these baffling questions lies the secret of nature's own radar.

The bat does not actually see its prey at all, but is guided to them in exactly the same way as a night-fighter may be guided towards an enemy bomber. Similarly its own perfect radar apparatus, located in its nose, mouth, throat and ears, can give it warning of any solid object in the air.

All the time they are flying, bats produce through their noses an interrupted supersonic pulse—an irregular, shrill, squeaking note mostly beyond the range of human hearing. This can only partially be heard by some persons, and no one over the age of about 40 can hear it at all. It has a frequency of anything from 45,000 to 60,000 cycles a second, and although it is made continuously, it does not interfere with the bat's normal, rapid breathing. It is produced in much the same way as a cat purrs whilst breathing and lapping up milk all at the same time.

This supersonic signal, not to be confused with the lower grunting note bats sometimes make, echoes back off obstacles which may be as small as

flying beetles, or as large as trees and walls. There is even a tiny muscle synchronizing larynx and ear so that the faintest echoes may be heard without being drowned by the constant emitting of the signal note.

To enable the smallest bat to pick up even the faintest echo of its own note from some distant obstacle, its mouth is so shaped that it is able to beam any sound it sends out in exactly the same way as you direct a much louder sound through a megaphone, which is roughly the same shape as a bat's mouth.

Using its over-large ears as stereophonic reception sets, the bat picks up every echo from solid objects simultaneously, and can therefore adjust its flight accordingly. If it is an insect flying nearby which gets picked up by the radar apparatus, the bat can steer over to catch it, while if the echoes come from some obstacle, this can then be avoided with unerring accuracy.

All this is identical to our own radar sets, save that we use radio instead of simple sound waves. The bat receives its own echo-messages direct in the brain, whereas we have to register the impressions received on a luminous screen.

Most of the credit for this truly amazing discovery which has eluded science for so long must go to Professor H. Hartridge, of St. Bartholomew's Hospital Medical College, London, who has studied bats for over 25 years. By persistent experiment and observation he has at last found that yet another of our much-vaunted inventions was not really new at all.

**S**OME of the experiments proved the bat's ability to sense all manner of obstacles in the dark without seeing them at all. A live bat blindfolded and set free inside a completely darkened room from the ceiling to the floor of which hung numerous fine wires separated only by inches and so arranged that the slightest contact with any of them would ring an electric bell, was found to be able to fly around quite freely in and out of the obstacles without once making the bell ring. This showed beyond question that, as far as is known, unique among wild creatures, bats possess this rare faculty.

And to cap the marvel it has now been ascertained that individual bats actually have their own personal wavelengths, to avoid confusion with the reception of echoes from other bats flying in the vicinity. These wavelengths vary only very slightly, but are sufficient for this purpose.



*Contour farming in the corn country to prevent water erosion.*



## WAR ON RATS

*A farm rat hunt that ran the whole gamut of recommended anti-rat measures before hitting on the right one.*

by C. E. WALDNER

IN the September, 1948, issue of The Country Guide I read with considerable interest the article on rat eradication by C. P. Barager. It is my opinion that Mr. Barager has done a very excellent job of describing the damage and waste these pests can cause.

In his article he suggests poison as a rat killer; concrete foundation and rat proofing as a discouragement for them. However, Mr. Barager made one statement with which I do not agree in the slightest. He stated that cats are useless for destroying rats as it is seldom that cats will ever attack a full-grown rat. In the following record of my experience I will attempt to show the value of cats as rat destroyers.

In the first place, I believe that rats will hesitate before starting up a colony on a farm which harbors a few good mousers.

It was in the early 1940's that rats first made their appearance in our neighborhood. We had heard of them moving in from the east a considerable time before that, but they remained in and around a town 25 miles east of here. It was heavily infested.

I well remember the first few rat signs in the district. These were dead rats which had been killed by dogs. It was only a short time later that farmers north of us reported signs of rats on their premises. Since a considerable length of time elapsed before we noticed rat signs around our farm we presumed that the creek separating us from the nearest farms to the north had something to do with the advancement of the rat army; the rats would not cross water but they found stone crossings and bridges. Once we found traces of the pests it didn't take long for other farmers south of the creek to report their presence.

Having 50 head of hogs at the time of the rat invasion, we had one stall boxed in for feed where we stored chopped grain for the hogs. The first noticeable rat damage was a funnel shaped hole directly in the centre of the pile of chopped grain. It was evident that rats were under the flooring of the barn. Having gnawed a hole into the floor they were slowly draining the stall of its contents.

OUR first effort to keep them under control was to trap them. However, after the first few were trapped the remainder became trap-wise. Thus we continued to lose hundreds of dollars' worth of feed each year. Later I got the idea of making a trap out of a five-gallon can with the top cut away. This can was set upright in a manger, well into 1½ feet of chaff or straw, leaving a few inches near the top exposed. I then hinged a board to the wall so that the board would fall on top of the can when string, which was fastened to the board, was pulled. The board thus acted as a lid.

I kept a supply of chopped grain in the can at all times to attract the rats to it. By pulling the string, which lead to the house, I would catch as many as 10 rats at once. Water was simply poured into the hole which I made in the lid, thus drowning the

rats. The trap was then reset to catch another batch.

This trap worked wonders until most of the rats became suspicious of the loud noise every time the lid came down. At the time of writing, the thought occurs to me that I would have done well to cushion the lid from making the loud noise thus increasing the value of the trap.

Nevertheless that rat plague continued and according to rat signs as described in Mr. Barager's article we were harboring from 1,000 to 5,000 of them.

Our first great alarm came when they began to direct an attack on the car. For some reason or other they had done a considerable amount of gnawing on the battery posts under the hood. They also punctured the heater hose as well as damaging the wires. Being afraid our tires would be next, we realized something just had to be done or they would chase us off the place.

MY brother bought some sheet metal 15 inches wide which he sank into the ground surrounding the garage. This procedure proved effective, as no further car damage was evident.

I found that rats have a craving for milk, blood and fish as well as grains, since they would make their appearance when cows were milked or turkeys butchered. Placing several hundred pounds of fish in a boxed container and storing it in a shed for future chicken feed, I found to my surprise that rats had eaten all the fish within three days.

We were also forced to move some buildings so that we could destroy the rats and kill off all their young. Our next intention was to raise the plank flooring in the barn, bank up the sides with earth and suffocate them by means of adding an extension to the exhaust pipe on the car which would be led below the floor. But we didn't get around to that.

We killed off a number of them with poison, but this was a constant as well as a dangerous job. We tried many crazy ideas which were supposed to have been tried and found successful by others such as trapping one of them, scorching its fur by fire and releasing it. It was presumed the rat would sound the alarm to the others, causing them all to scam. Another suggestion was that of leaving a dead rat at an entrance to a burrow. This was supposed to cause the rest to flee. Instead of doing that, it turned out that the rest had a good rat feed.

It was then I began to raise mink under the illusion I could feed the rats to the mink, thus making clear profit in mink as well as aiding my rat control project. Upon placing the first rat in the pen of a large male mink, he was interested only in killing it, making very quick work of it. When I mentioned this to a neighbor, he informed me that rats may be carriers of deadly diseases, so thereafter I decided not only to discontinue this practice, but to make a determined effort to dispose of the pests once and for all before they managed to spread

a disease among the mink. The rats by this time were eating the minks' feed out of the slanted feed hoppers hung to the wire of the mink pens. Thus my plan of feeding mink on rats had practically backfired.

Since we had a pet cat which showed no interest in the rat hunt we were under the impression that cats were useless in controlling rats. In the meantime however, we noticed that farmers having good "mouser" cats on the place were not bothered by the pests. We also heard that cats brought in to stop the rat menace became sick and died from disease contracted from the rats. However, since it was a known fact that fresh milk has a great deal to do with prevention of poisoning we decided to get some cats. We then had to dispose of our pet cat as he was fighting off the other cats. As we were having a great deal of trouble in keeping cats we decided to get some complete with litters because they stayed to feed their young. A total army of 20 cats was collected to start the war on rats.

THERE is only one way to keep the cats after the rats since it is a known fact that cats will not attack rats for pleasure as they will mice. They must be forced to exist on rat carcasses. In other words, we made sure that the cats were kept in a hungry state at all times, forcing them to kill rats for themselves and their litters. It wasn't long before symptoms of disease were noticed among the cats. We instantly disposed of all those showing the effects in their eyes which became swollen and crusted, eventually causing blindness. Fresh milk was kept before them at all times to keep this trouble under control.

We noticed that the cats would make no effort to kill full grown rats but the young ones were killed and eaten by the score. On one occasion we watched two half grown kittens attack and kill a rat almost full grown, which proves that hunger will make them tackle anything.

The cat army proved to be the cheapest and best source of attack because within one year's time nothing was seen of the rats but the damage they left behind. Since the cats destroyed members of the litters, the wise old rats decided to pull up stakes and leave as things were beginning to get a bit uncomfortable for them. Once we had the rats cleaned out we disposed of the cat army with the exception of a few to discourage other rats from coming here.

Last spring however, three years after the rat clean-up, we were down to only one cat, and since she existed on wasted food around the mink ranch she wasn't very interested, and once again the rat signs began to appear. In the meantime this cat had a litter of five kittens, so I decided to board up each end of the granary under which the rats were making their home. The cat and her kittens were placed under the granary, receiving fresh milk daily. All rats were cleaned out in a few weeks' time and that's the end of the rats. They will never cause us worry again.

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## Bear Sleepers

Some observations about the winter habits of bears.

by CLARENCE TILLENIUS

ED. NOTE: Of recent months *The Country Guide* has published two short stories which featured a bear being out of his expected winter nap. We had many letters asking in effect: "How come that a bear should be out and active at such a time?" So we asked Clarence Tilenius to explain these matters of importance to our critical reader audience.

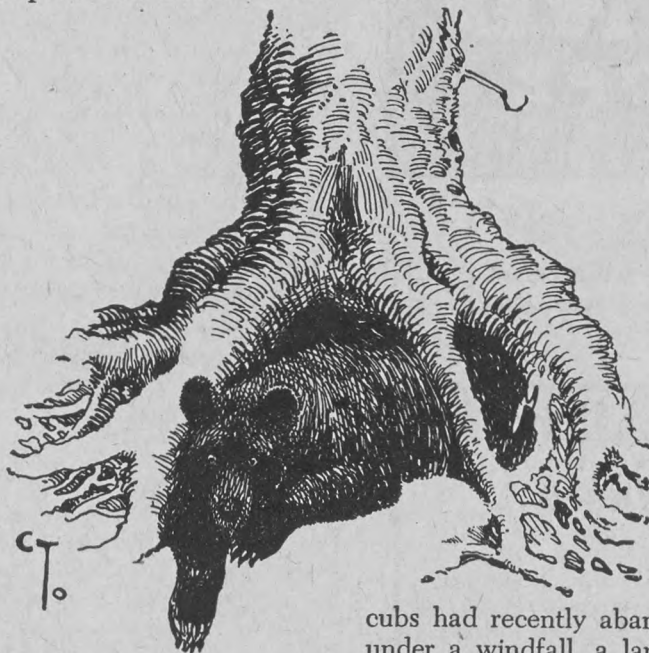
WHEN outdoorsmen foregather on the subject of hibernating bears, the arguments often fly thick and fast. The winter sleep of the bear is not the same as that of animals like the bat, the woodchuck or the chipmunk. These animals, during the season of hibernation, go into a state of trance; they appear totally unconscious and the heart beats very slowly. A striped ground squirrel which I found hibernating under a straw stack was curled into a tight ball, showed no signs of life, and only began to move after being exposed for several hours in a warm room. The bears, however, sleep very lightly in their winter hideouts and are sometimes ready to go into immediate action when disturbed. Hibernation seems to be largely a question of food. Normally, in cold climates, a black bear eats voraciously through the summer and fall, putting on layer after layer of fat. Before the onset of winter, often before the end of October, he seeks out some chosen nook and dozes the winter away.

But not always. Victor Cahalane, in his book, "Meeting the Mammals," recounts an incident concerning a ranger in Mount Rainier National Park. Tramping through the forest one day in midwinter, he came to a large snow-covered log, climbed it, and jumped down into a snowdrift on the other side. To his astonishment, the snowdrift erupted from under his feet

thicket of alders where he was lying asleep.

A VERY interesting incident is related by Mr. and Mrs. H. D. Whellams of North Kildonan. Towards the end of February, 1948, they were snowshoeing with a number of others in the Whiteshell district of Manitoba. Crossing a hay slough, they caught sight of a black bear lying in full view on a large pile of hay at the foot of a jackpine. The bear was shot, and coming up to it they were surprised to find that it was not a male as they had thought, but a female, for in a hole in the hay under her were three cubs, two black and one brown. As cubs are usually born about the end of January, hairless, and weighing only from eight to twelve ounces, these were still quite small. A settler in the district, R. Sorenson, who earlier in the fall had been cutting wood in the neighborhood of the slough, had seen the bear raking together large bundles of grass into a heap at the foot of the tree, apparently preparing to hibernate. Later in the season he passed that way and saw that the same bear had gone to sleep in the haycock and had managed to pull the hay over her so that she was almost completely covered. When the Whellams examined the spot there were no tracks, old or new, in the snow about so the bear must have remained in the same spot all winter. Manitoba winters are not famous for their balmy airs and it is curious that the bear should have been able without discomfort to lie quiet through a severe winter with no more protection than a few wisps of hay. In another part of the province, Mr. Whellams once came on an old dog-bear sleeping fully exposed on a hummock in a muskeg.

On the other hand, however, I once crawled into a bear den in Ontario which a mother bear and her two



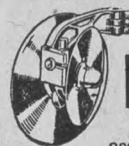
and a large, black bear burst out and lumbered away through the trees. Dan McCowan, in his "Animals of the Rockies," cites the black bears as light sleepers and a writer in *Field and Stream*, whose name is unfortunately lost from my clippings, tells of coming on a fresh bear trail in midwinter in Alaska. The bear had been feeding on salmon, caught at a hole in a nearby stream where hot springs kept the water open, and was easily backtracked through the deep snow to a

cubs had recently abandoned. It was under a windfall, a large tunnel dug back into the hillside about eight feet, opening out into a cave about five by six feet, and almost four feet high. In the centre of the cave was a fine nest of hay, spruce needles and moss heaped up and hollowed out like a large bowl. A cozier home than this in winter (from a bear's point of view), would be hard to find. As many a naturalist has said, the one thing the student of bears can be absolutely sure of is that you never know just what they will be up to next.

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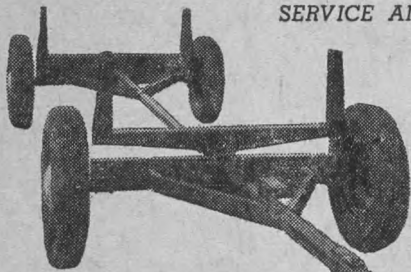
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CANADA

## The Wolf Dog

Continued from page 11

To Mike they look like bivouacs where men sleep on the ground in bags. There's a party of Boy Scouts, with a scoutmaster, camped at Upper Lake right now. Mike was on his way to wake 'em when he found us here. So he stopped long enough to lick our faces."

"That," marveled the ruddy Hank Biglow, "is what I call service."

"He does it every mornin'," Ed said, "and those kids sure cotton to him. As each Scout gets waked he pulls Mike's ears just like them soldiers used to do. Then the whole troop gets up and they feed Mike and romp with him. That's what's goin' on right now. And speakin' of right now, it's time I'm roundin' up the stock."

THE packer took ropes and went off in a high-heeled walk down the lakeshore. Hank Biglow made breakfast. By the time it was ready, Ed was back with six saddle horses and as many pack mules. Over bacon and flapjacks talk kept warmly on Mike, with Taggart a sullen minority.

"That brute'll revert to type, sometime," Taggart growled, "and slash somebody's throat."

"On the contrary," Barr argued with his curt, courtroom logic, "he should be friendlier than most dogs because he wasn't raised as a one-man dog. He belonged to a large group of men, with replacements coming and going; so he likes all men impartially, especially if they sleep in cold camps like a unit of ski-troops."

"There he comes," Ed said, "on his way home from the Scout camp."

It was broad light now and Mike, as he came loping down the trail, looked more than ever like a monster wolf. Only a wagging tail denied him that aspect. White marked his ruff and shaggy flanks. Otherwise his coat was dark grey. Thirty inches high at the shoulder, he must have weighed better than a hundred pounds. He had the head and ears of a wolf and a brushy, lupine tail; but his body had more the lines of a police dog's except that it was longer, shaggier and deeper-bellied.

Confident of a welcome, Mike circled the breakfasters, making playful overtures. Each man except Taggart gave him a pat on the head. Each man except Taggart tossed him a strip of bacon.

"Make yourself at home, Mike," Biglow chortled. And the stocky, grim-mustached Goddard echoed, "Be sure you don't let us oversleep in the morning, Mike, old son."

Taggart offered nothing but sullen stares. In a little while the dog left them, disappearing down trail toward the ranger station.

Ed Stites lashed empty pack saddles on the mules, saddled the horses. "I'll call fer you gents in ten days," he promised. By eight o'clock he was off eleven head of riderless stock strung out on a long lead line behind him.

Taggart took his rod and went up the lakeshore. He wasn't in a mood for fishing; mainly he wanted to get off by himself and think. Not about that wolf dog, Mike. Now that he knew Mike's background, the dog's dawn excursions weren't in the least important. In fact, Taggart's truculent outburst this morning had been main-

ly an indirect expression of his own nerve-strain. He'd been jumpy like this for weeks, ever since he'd embezzled nine thousand dollars out of the Veterans' Memorial Fund. No one knew about it yet. But they would, when a final accounting was made next month. Inevitably it meant disgrace and prison for Taggart.

At the falls he made a cast or two. His third cast snagged and he lost a leader. He cursed the snag and the leader and Hank Biglow.

Because if it wasn't for Biglow, Taggart knew he could cover up. There were three of them on the committee—Biglow, Taggart and old Colonel Whipple. Old Whipple's position was purely honorary; he was laid up with the gout and had taken no part in the drive. Most of the subscriptions had come in small cash sums, many of the donations anonymous. The total was impressive and had exceeded expectations. But Hank Biglow, who had lost two sons in the Pacific, was determined to make it even bigger. If the total were known now, it might cause future subscriptions to fall off. So Hank had agreed with Taggart to keep the total collections secret until the last minute.

If he'd just fall off a cliff and break his fat neck, Taggart brooded, no one would ever know.

Taggart took the .38 gun from his pocket, stared at it, shook his head. Sniping Biglow in the woods wouldn't do. They could unravel a thing like that.

Then Taggart thought of the wolf dog, Mike. A beast that came plunging into camp at every grey dawn to paw sleepers.

The idea brought a gleam to Taggart's eyes. In a burst of temper this morning he'd sworn to shoot the dog if it ever happened again. And surely it would happen again—tomorrow morning. Suppose Taggart should make good his threat! They can't hang you for shooting at a dog. Neither can they hang you if you miss the dog and hit a man in the next bag.

An accident. But a perfect accident! You threaten to shoot if something happens. It does happen and you shoot. In the half-light of dawn, in confusion caused by a dog bounding around among five, closely huddled sleepers. And there you are, with one dead man and four living witnesses to swear it was all a ghastly accident. They heard you threaten to shoot at a dog, so they will all be certain you did just that.

"It's my only out!" Taggart muttered. He put the gun in his pocket and went grimly back to camp.

AT supper time, with heaping platters of trout which should have made all moods mellow, Taggart made it a point to harp querulously about Mike. "I'm telling you," he warned, "that damned wolf dog better keep his snout outa my face! I'm takin' a gun to bed with me tonight."

He must leave no doubt that the gun was meant for the dog and not for Biglow.

"You wouldn't shoot a friendly pup, would you?" Goddard challenged.

"Not if he leaves me alone," Taggart retorted. "But when a wolf-whelp sticks his fangs in my face, I feed him a slug."

A coldness grew and after supper the others withdrew to a group apart.



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"You suppose he really would?" Goddard worried.

"He's just bluffing," Biglow suggested hopefully.

But at bedtime it became clear that Taggart wasn't. The others saw him look to the loading of his .38 and crawl into his sleeping bag with it. "If I get waked up the way I was this morning," was his parting word, "there'll be one less wolf in these woods."

"That," Attorney Barr whispered, "leaves us just one thing to do. Come along, Hank."

Biglow followed Barr down the dark trail and they tramped half a mile to the ranger station. A gaunt shape came springing toward them but when Hank called, "Hi, Mike, is the boss at home?" the shape wagged its tail.

In the cabin they found Ranger McGurk. Barr told him about Taggart. "To play safe," he finished, "you'd better lock Mike up tonight. It need only be for one night."

McGurk's lean face flushed. "You're doggone right it'll only be for one night. 'Cause in the morning I'll go up and try to talk some sense into that guy Taggart. If I can't, I'll confiscate his gun."

They went out and coaxed Mike into a woodshed. McGurk closed the door and snapped a padlock in the hasp.

"Too bad," Hank Biglow sighed, "we gotta cheat those scouts outa the fun of being waked up by Mike in the morning."

With Barr he walked back uptrail to camp. The others were in their bedrolls. Biglow and Barr shoveled sand on the supper fire and crawled into their own.

**T**AGGART, of course, couldn't sleep. Not with a murder plan burning his brain. How can a man sleep when he knows he must kill a comrade at dawn?

So Taggart lay stiffly awake in the cramped confines of his bag, his nerves like live wire. He had maneuvered to spread the bag directly beside Biglow's. The fat man's head was barely an arm's length from his own. He could almost reach out and touch Biglow. At a range like that, even in dim starlight he couldn't miss.

Hour after hour Taggart lay tensely awake. The night crawled by. Taggart's luminous dial wrist watch told him when it was midnight, one o'clock, two, three— At four he twisted to his left side to face Biglow. A deep breathing of sound, healthy sleep came from Biglow. Once a marten scampers through camp, lured by the smell of dressed trout hung on a wire to dry. Because no stir of attention came from any of the others, Taggart knew they were all fast asleep.

At five he made ready. Cautiously he loosened the neck of his bag so that he could get his hand and gun out. He put them out only far enough to allow freedom for the trigger squeeze. The faintest of night light outlined Biglow's head. Taggart held a steady aim on it, waiting. It must be timed to the split second, and he must be ready. He couldn't shoot, of course, until the wolf dog came plunging in on them. Then confusion and a shot. People would censure Taggart, of course, but it beat going to prison. "I was shooting at the dog," he would swear. "I said I would, didn't I? But

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with the brute pawing me, and me only half awake, I missed him."

IN THE ranger's woodshed, Mike was wide awake and vigilantly aware of his responsibilities. These, to Mike, were cleancut. There were a couple of outposts up the trail—one of big soldiers at Lower Lake, another of pygmy soldiers at Upper Lake. Creatures who wore khaki fatigues by day and slept in bags by night. Men creatures helpless to wake up unless he, Mike, waked them.

Mike would feel derelict in his duties if he failed them. At five-thirty they must be routed out of those bags.

He paced his prison, nervously impatient. He pushed at the door but it wouldn't give. The dog in him inclined him to whimper; the wolf in him kept him stoically silent; the soldier in him steeled him to a duty.

A bit of fleshly selfishness pulled at him too.

The highlight of his day was dawn at the scout camp. He loved the way they made a fuss over him when he waked them up. He liked the choice morsels they fed him, too.

Time was pressing. An uncanny sense told him it was the getting-up hour. He lunged again at the door but it wouldn't yield.

Then he leaped at a high, sealed window. It didn't give either, yet it seemed less sturdy than the door. Actually it was only a square of beaver board tacked over a paneless window frame.

At his next lunge it bulged outward. Tacks ripped from a corner. He reared to full height, pawing it. More tacks ripped. One more mighty lunge and the hole was clear.

Mike leaped through the opening. He hit the ground outside and went racing up the trail. He was a bit late, but there was still time. His main goal was the upper camp, but as he passed the lower camp he could stop briefly to serve it too. Being mere men, they were sure to oversleep if he didn't wake them.

On up the trail Mike streaked, running like a wolf. Frost was on the ground and at every bound he left paw prints on it. In three minutes he covered half a mile. Features of a camp loomed in the dawn light. A small tent. A table. Camp stools. And five long lumps on the ground. Bags of sleeping men.

Mike stopped at the campsite's edge, perhaps ten feet from the nearest sleeper. He was about to pounce on that sleeper, and paw the face there, when a detail of the scene froze him rigid. He stood there for a moment alert and motionless. Then slowly, silently, he backed away. His gaunt, grey shape dissolved into the gloom of the trees.

Here was a camp he must not intrude on. He was like a visitor who, about to enter a hospital room, sees a sign, "Do not disturb."

Duty is one thing. But discipline, for a soldier, goes hand in hand with it. Without a sound Mike circled the camp. Hitting the trail again beyond it, he raced on toward the Scouts at Upper Lake.

AN HOUR later Hank Biglow was flipping flapjacks. In turn the fat man served his four companions.

"Here you are, Taggart." Hank dropped a stack on Taggart's plate.

"Whatsamatter? Didn't you get any sleep last night?"

Taggart, haggard and red-eyed, knew nothing about the dog being locked up. He knew only that his planned crime had failed.

"Set another plate, Hank," Barr said. "Here comes the ranger."

Ranger McGurk strode into camp with a worried look. "My dog wake you fellahs up?" he inquired.

Hank stared. "How could he? We locked him in the shed."

"He broke out," McGurk told them. "His paw prints in the frost show he came loping right here."

Relieved that there'd been no trouble about it, the ranger sat down and accepted breakfast.

Goddard went a little way up the trail and in a few minutes came back. "Yes, the frost shows paw prints a little beyond here, too. Mike circled our camp and went on to Upper Lake."

Hank Biglow gaped. "Wonder how come he passed us up?"

Attorney Barr asked shrewdly, "Is there any special situation McGurk, where he was taught never to do his reveille act? You were in the troop unit with him, so you ought to know."

McGurk rubbed his jaw thoughtfully. "Yeh," he admitted, "there was one thing we taught Mike never to do. He was punished a few times for doing it, and he learned his lesson. Plenty sharp, that pup was."

"What," the lawyer persisted, "couldn't he do?"

"We taught him," McGurk explained, "never to butt in on a combat alert. Whenever the unit was alerted for combat, Mike had to make himself scarce."

"But how could he tell," Barr wondered, "when an alert was on?"

"Lots of ways," McGurk said. "Whenever we were alerted for combat, we slept with our guns."

All eyes went to Taggart. Hank Biglow said, "Taggart slept with his gun last night."

Barr shook his head. "But the gun was in his sleeping bag and Mike couldn't have seen it." A livid panic on Taggart's face made him persist: "In what other ways, McGurk, could Mike tell when a combat alert was on?"

"By combat tension," McGurk said. "Mike could smell it same as you can smell fish. Or if he saw a sentry aiming a gun into the darkness, or any soldier holding a gun on a prisoner—"

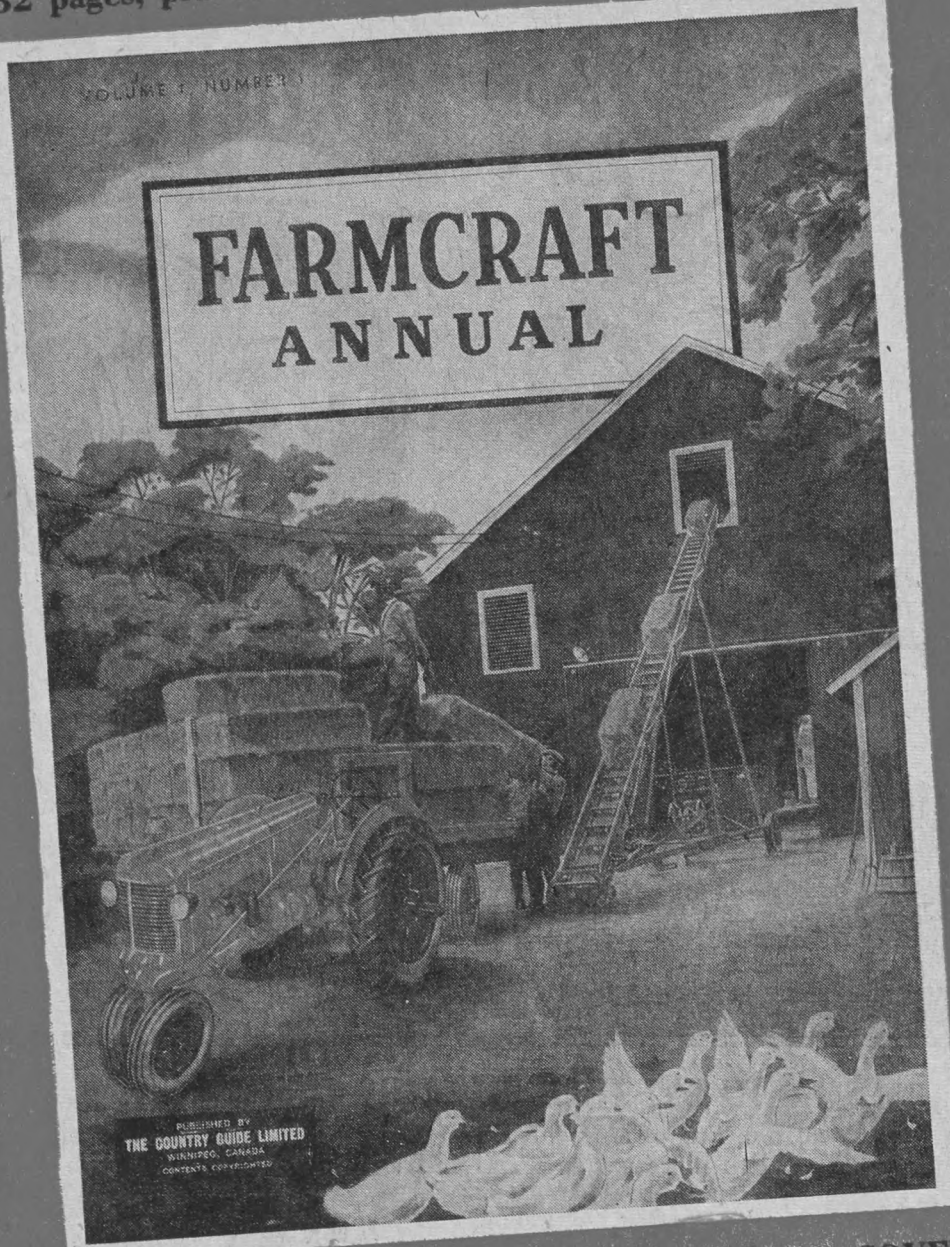
The wild terror on Taggart's face stopped McGurk. The grey lines there were like prison bars. The ranger held out a hand and said, "And speaking of guns, Taggart, as keeper of the peace in these woods I'll take yours right now."



"You're right, Doc. The rims are a mite too heavy."



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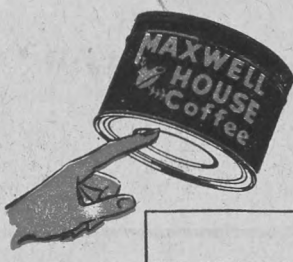
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# The Countrywoman

## The Poet Defies

*I am making beauty here  
While my neighbors plot and plan,  
While they whisper: "It is queer!  
Find out everything you can.  
Why the lamps burn through the night,  
Why there is no stir by day;  
Why the garden is a blight  
And the steps are grimed and grey."*

*I am making beauty here:  
Loveliness of leaf and sky  
And of water lithe and clear,  
So it will not ever die.  
Let the dust and litter blow,  
Let the world be set and sane;  
I can make a dead joy glow,  
I can draw the string of pain!*

—GILEAN DOUGLAS.

## Progress In Health And Welfare

**P**OSSIBLY few Canadians realize that during the past 25 years the expenditure of public money on health and welfare services has increased tenfold. In 1924 the annual expenditure on public welfare services, including health and most forms of institutional care, amounted in all of Canada to very little more than \$85 million annually. The current expenditure in the year 1948-49 will amount to close to \$850 million, which presents for our study a graphic story of what has taken place in the interim.

Canadian Welfare, a magazine published by The Canadian Welfare Council, 245 Cooper St., Ottawa, in its January, 1949 special 25th anniversary number features many articles from leading persons on special subjects. These tell of the growth of public and private volunteer efforts in welfare fields. It is intended to "provide perspective on our total task; it will fail of its full purpose unless readers find in it also a compulsion to take up the challenge of the present in the spirit of those who have gone before," writes the editor, R. E. G. Davis, who continues concerning the progress in achievements:

"Somebody's vision and a great many people's devotion and hard work are embodied in them. Not a few began as audacious experiments and had to make their own way slowly in the face of ignorance, indifference and open opposition . . . It must be apparent, to those who care, that we have a long way to go before freedom from want, let alone welfare's positive goal, the good life in the good community, begins to appear over the horizon."

**O**NLY brief reference may be made to the main points in the space available. Readers interested in health and welfare services, in all of the provinces; are urged to secure copies for study. Dr. George F. Davidson, Deputy Minister of National Health and Welfare, notes the following points:

Beginning 1927, we have since developed a system of pensions for the aged and later for the blind, which now provides a minimum of security to 250,000 individuals at a total cost approaching \$100 million annually. We spend today on the aged alone more than the total

**Canadian Welfare presents the facts telling the story of accomplishments in the past quarter century.**

by AMY J. ROE.

spent on all our health and welfare services by all levels of government 20 years ago. Under the War Veterans' Allowance Act, the cost of retiring allowances for the aging veterans runs to approximately \$10 million annually with close to 30,000 veterans benefiting.

Our bitter experience during the depression brought forward the Unemployment Insurance Act of 1940, through which contributions are made in times of employment by workers, employers and government, providing a fund totalling close to \$500 million. This fund stands a steady sentinel of security in times of involuntary idleness to 2,500,000 Canadian wage-earners. Provincial workmen's compensation and mothers' allowance now extend to all but a tiny fraction of our population.

**T**HE Prairie Farm Assistance Act and the Agricultural Prices Support legislation of 1944 were measures designed for the protection of the farmer, to give him the same kind of protection and security that is assured to the urban wage-earner through the medium of unemployment insurance.

The Family Allowance Act of 1944 constitutes perhaps the most striking and dramatic step towards achieving the fullest measure of security and opportunity for the families of the nation. This legislation provides for 1,700,000 families on behalf of 3,800,000 children at a public cost of \$270 million annually.

The latest step along the road of progress has been the national health program of May, 1948, through which the federal government, for the first time in its history, assumed a major role in assisting the provinces to carry out their responsibilities in the field of health. Through special grants at the rate of \$30 million annually for five years for general health, tuberculosis control, mental hygiene, venereal disease, cancer research and treatment, hospital construction and training of personnel, etc., the Federal Government has made it clear that the health of the people of Canada is both a provincial responsibility and a national concern.

The history of the growth of provincial and national departmental machinery to handle and plan the work is given. Manitoba's creation of a Department of Health and Public Welfare in 1928 established a pattern which the other provinces and the Federal Government itself were for a long time slow to follow. Ontario followed suit in 1930, Quebec in 1938. From 1942 to 1947, in rapid succession the remaining six provinces in Canada established permanent departments of public welfare. In 1944 the Federal Government set up the Department of National Health and Welfare.

Partner Possibilities, an article by Dr. Harry Cassidy, Director of the School of Social Work, University of Toronto, traces the story of the working out of agreements, the obstacles and deadlocks in Dominion and provincial relations concerning health and welfare matters, stating: "The conclusion emerges that the Dominion-Provincial relations controversy is far less of a barrier to national security policy than is commonly supposed. The difficulty is fundamentally political rather than constitutional.

"Perhaps in an attempt to solve one major problem at a time, such as social security, lies the answer to the general issue of Dominion-Provincial relations. The Rowell-Sirois Commission tackled the whole complicated question and did not obtain an answer. The conferences of 1945 and 1946 tried to settle everything all at once and failed again. Later the tax issues were decided, for the time at least, with seven provinces out of the nine. If social security is tackled as a separate problem, a great deal of success should be possible."

Dr. F. W. Jackson, formerly Manitoba's Deputy Minister of Health and Public Welfare, now Director of Health Insurance Studies, points out that the present trend is toward the preservation of the health of the individual rather than merely the prevention of disease. It is noted that: The mortality rate due to communicable disease has shown a continuing decline. The death rate for typhoid fever, scarlet fever and diphtheria has dropped more than 80 per cent in the last 25 years; whooping cough and measles have shown over 70 per cent decrease; the maternal mortality rate has dropped over 60 per cent and the infant mortality rate over 50 per cent but the stillbirth rate has not shown an equal decline and is still a cause of general concern. The expectation of life at birth for males in Canada in 1941 was 62.95 and for females 66.29 years. Canada ranked sixth with respect to 49 areas for males and 43 areas for females.

Insurance plans for hospital care have been successful and now have over 2,000,000 subscribers. Plans

(Turn to page 88)



Early spring sunshine.



# Spring Style Story

*This season's fashion mood is one of gentle styling—many feminine touches shown in soft and graceful contours—with accessories accenting main theme.*

by MARION R. McKEE

**I**NTERPRETING the mood for new spring styles Fashion says, "This is a feminine year, keyed to soft and graceful contours with many dainty dressmaker details. Gentle styling will be evident in all fashions, creating soft-mannered costumes with feminine charm."

The silhouette is less exaggerated than last year, the extreme fullness being moderated and toned down for a smoother outline. Waistlines are small but not pinched in, skirts full but not billowy, and shoulders natural with a slightly padded look. The newest styles are beautifully wearable, and becoming to the average figure.

The French Empire silhouette stands out as the newest style expression, showing its influence in many of the smartest spring dresses and coats. This trend shows a high, snug-fitting waistline sculpturing the waist to the bustline where fullness softens the effect. Inspired by historical costumes the designers have moderated and adapted it to a lovely modern fashion.

In stressing the feminine theme for spring many buttons are used in clever ways. Rows of buttons march down the backs of some dresses and coats, perk up pockets and cuffs, lend a touch of glitter to a collar or lapel, or cascade down a skirt. Buttons appear in bright metal colors, or in matching or contrasting hues to the costume. Many of the newest fashions will be distinguished by their novel button trims.

Collars have taken an upward turn on coats, being worn high in the back and rolled towards the throat. Many of the new coat collars are stitched in the back to hold their lofty height.

Three styles dominate the spring coat collections: The fitted princess, the full sweeping back, and the belted. Each of these coat silhouettes favor the latest fashion in different and striking ways.

The fitted princess is becoming more and more popular this season, after being in the background for the past few years. Its slender fitted lines mold the figure slimly to the hipline, then flare gently to a gracefully full hem. The French Empire influence is seen in fitted coats, showing tightly buttoned, high waistlines, and fullness over the bust.

Some princess coats are classic in design, depending on smooth cleverness of cut, and richness of fabric to bring out their unadorned beauty. Other fitted coats are styled with a double-breasted effect, cavalier-type back pleating, contrasting color trim, pretty button treatment, unusual pockets, or other interesting details.

The loose coat with the full sweeping back is gracefully beautiful in silhouette, and a fashion-favorite for spring. Soft folds fall lavishly from a smooth shoulder line or from a pretty back yoke, to a wide, wind-swept hemline. Sometimes this coat is fastened with a single button at the throat, or buttoned to the waist. Because of their easy fit, these coats are often chosen for wear over suits.

The belted coat with its casual manner is another spring favorite. Unusual yoke treatments, large patch pockets

and contrasting trim are some of the distinguishing details. Unpressed pleats in back, tucks and darts at the waistline, and gored skirts add the desired fullness to the hemline. A few feature a half belt across the back, gently restraining the fullness.

Short toppers, little cousins to the full length coat, are just as popular as ever this season, especially for wear over suits and skirts. Gay and colorful, they sometimes match the suit or make a delightful contrast. Some of the newest are exceptionally short and called the fly-aways. Most are finger-tip length for more practical wear.

Many of the toppers are full in back with gores or unpressed pleats, occasionally with a gracefully dipping hemline. Box toppers are new and popular, especially for wear with separate skirts for a suit-like appearance. The style details of the full length coats are reflected in the little toppers, such as welt detailing, pocket treatment, button trims, and color contrast.

Focal point of many wardrobes is the new spring suit, worn with a change in accessories for a different costume appearance. This season's suits feature many soft dressmaker details used in numerous pretty ways. The silhouette is softly rounded and curved for gently natural shoulders, slender waist, and a neat hipline. Jackets are a medium length or a longer, slightly flared, tunic length.

Sometimes the style interest is centred at the jacket back with fullness at the waistline sweeping to a dipping, peplum-like hem. There are fitted jackets, molded to the figure for a smooth, fluid line. Box jackets are making an appearance with their jaunty charm, often in a contrasting color or pattern of fabric to the skirt; sometimes displaying a belt.

**C**OLLARS are shown more and more on suits. Little Peter-Pan collars, pretty peaked collars, or novel collars dress up the softly contoured jackets. Cuffs on sleeves strike a new fashion note, sometimes touched off with a button trim, or a contrasting color.

The slender, stem-slim skirt is paired with almost every type of jacket for the new spring suits. Smoothly contoured, it is flattering to almost every type of figure. The hemline is slit either at the sides, or in front and back, for style and walking freedom.

Very new and very smart are the matchmate ensembles, featuring a suit with a matching topper. These may be interchanged with other costumes to bring a variety to your wardrobe.

To complement your suits and skirts with dainty feminine charm, blouses this year are exceptionally pretty. Lace froths at yokes, ruffles, sleeves, jabots, and other trims for a transparent delicate look. Bows tie at the throat, on sleeves, crossing yokes, and in many pert ways.

One of the newest blouse fashions, inspired by New York, is the dark cotton. The dark background is lightened with dainty eyelet lace or pique. Calico cotton, reminiscent of by-gone days, is making an appearance in blouses, lending a charming old-fashioned air to a new style.

(Turn to page 82)





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## Appetizing APPLE CAKE

NEW TIME-SAVING RECIPE—MAKES 2 CAKES

Measure into bowl  $\frac{1}{2}$  cup lukewarm water,

1 teaspoon granulated sugar

and stir until sugar is dissolved.

Sprinkle with contents of 1 envelope Fleischmann's Royal Fast Rising Dry Yeast

Let stand 10 minutes. THEN stir well.

In the meantime, scald  $\frac{1}{2}$  cup milk

Remove from heat and stir in

$\frac{1}{4}$  cup granulated sugar,

$\frac{1}{2}$  teaspoon salt,

3 tablespoons shortening

Cool to lukewarm. Stir in 1 cup once-sifted bread flour and beat until smooth

Add yeast mixture and 1 egg, well beaten

Beat well, then work in  $2\frac{1}{2}$  cups once-sifted bread flour

Turn out on lightly-floured board and knead dough lightly until smooth and elastic. Place in greased bowl, brush top with melted butter or shortening.

Cover and set dough in warm place, free from draught.

Let rise until doubled in bulk.

Punch down dough and divide into 2 equal portions; form into smooth balls.

Roll each piece into an oblong and fit into greased

pans about 7" x 11".

Grease tops, cover and let rise until doubled in bulk.

Peel, core and cut into thin wedges 8 apples

Sprinkle risen dough with  $\frac{1}{4}$  cup granulated sugar

and lightly press apple wedges into cake tops, sharp edges down and close together.

Mix 1 cup granulated sugar,

$1\frac{1}{2}$  teaspoons ground cinnamon,

and sprinkle over apples.

Cover and let rise about  $\frac{1}{2}$  hour.

Bake in moderate oven,  $350^{\circ}$ , about 1 hour.

Serve hot, with butter.



Dresses are lovely, feminine and flower-fresh in design. Newest is the French Empire with its high fitted waist, gentle lines, and deeply plunging neckline. Skirts are full and flowing, though not as exaggerated as last year's ballerina, gores and gathers creating the fullness in some, unpressed pleats in others. Dress skirts feature back interest with bustle-like drapery and peplums. Stoles to match your dress are new, and are worn gracefully draped over the shoulders. Many of the season's smartest dresses are trimmed with leopard-like fabric.

DAINTY details and extensive use of trimmings point up many dresses. Crepes are trimmed with plaid or plain taffeta, for a light and gay touch. Inserts of contrasting material and colors are seen in the skirts, with the theme carrying to a trimmed collar or cuffs. Shadowy lace fashions many an elegant peplum, bodice, sleeve, or an insert in the skirt.

Print dresses are brighter and more colorful than ever, with designs that tell a story, or pretty floral patterns on a monotone background. Crisp taffeta with its swishing rustle is one of the smartest fabrics for spring. In plain or plaid it styles many a pretty party dress.

Summer dresses are candy-pretty in both design and material. Newest among summer fabrics is the shimmering iridescent shantung, with its soft rippling sheen. Old-fashioned calico stages a becoming comeback with gay colors on a dark background. Gingham is also featured, checked with bright colors.

Shoes make important steps this spring, being chosen to complement the costume in both silhouette and color. Backs are soaring and ankle high, usually with delicate ankle straps. Straps pretty many shoes, lightly crossing insteps, fashioning vamps, and circling the ankle. New style notes are expressed with the V-throat, lattice-work vamp, and low, shell-cut with a light-as-a-feather look.

The Paris influence for smart footwear is in the new and strikingly different boot silhouette, which introduces a covered-up look. Lightly fashioned, in spite of their heavier appearance, they feature straps and buckles high up to the ankle.

The spring hat is one of the outstanding accessories of the season. No fashion story would be complete without telling its style highlights. Hats are as fresh as a corsage, with every range of color seen, from pastel to navy. Flowers as a trim are used effectively, often banked to the side for interest, or brought to the front of the brim. Wide ribbons assume importance, especially in satin and taffeta. Generally speaking the early spring hat silhouette ranges from turbans and small suit hats, to off-the-face brims, sailors, and pretty bonnets, mostly worn slanted to the side.

In the purse department there are lovely, handy envelope styles and box-style with many compartments and spaces. Handbags are more bulky or fatter, and in general shorter. They come in a variety of styles and sizes and in colors often matching or complementing your hat. Shoulder bags are seen, with straps which may be adjusted to a shorter length. Plastic is as popular as ever, since it is inexpensive, washable, and presents a

(Turn to page 91)

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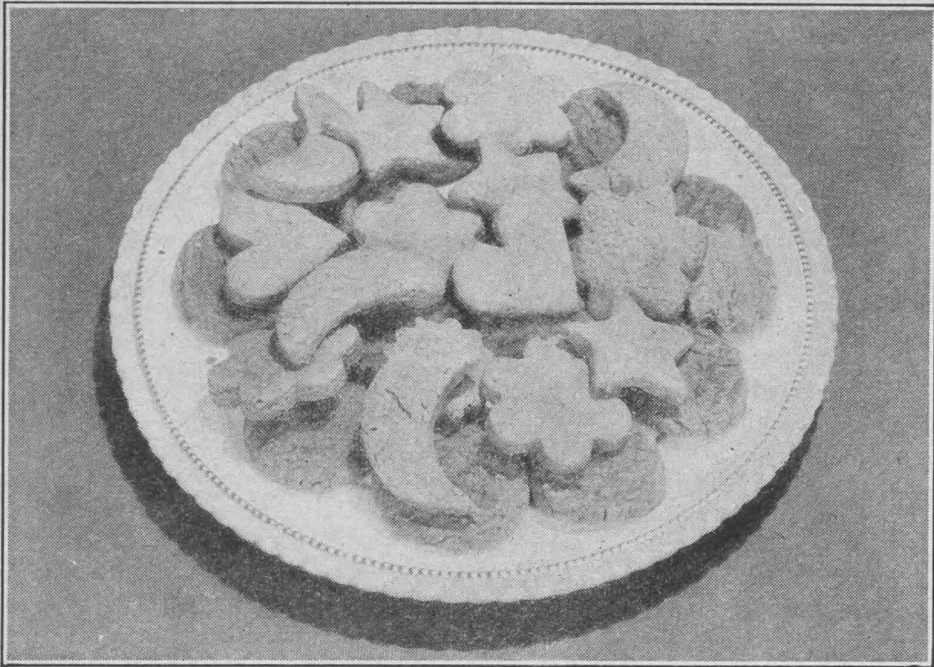
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Cut in fancy shapes, cookies are attractive feature for a special occasion.

## Ginger Cookies

With their spicy flavor serve a variety of uses.

by EFFIE BUTLER

MANY household emergencies seem to be half solved if there are plenty of cookies in the jar. You know the type of emergency . . . the arrival of an unexpected caller near tea time . . . something to serve with a dish of fruit for a quick dessert on a busy day . . . variety for school lunch boxes . . . or wholesome snacks for hungry children in from play. Ginger cookies with their spicy flavor will meet these needs.

Some like to make drop cookies, others like to make rolled cookies, but for many home-makers gone are the days when an afternoon was set aside to make a batch of cookies. Refrigerator cookies, while not quite so perfect in shape, are every bit as delicious, besides being time and trouble savers. Even at that the work is divided, they may be mixed one day and baked the next, perhaps while the oven is hot from cooking a meal.

### Soft Ginger Cookies

- |                           |                      |
|---------------------------|----------------------|
| 1 c. butter or shortening | 5 c. sifted flour    |
| 1½ c. brown sugar         | 4 tsp. baking powder |
| 3 eggs                    | 1½ tsp. salt         |
| 1 T. ginger               | 1 tsp. cinnamon      |
| ½ c. dark molasses        | 1½ tsp. soda         |
|                           | ½ c. boiling water   |

Cream the butter, add the sugar, and mix well. Then add the beaten eggs and blend. Add the ginger to the molasses and mix, then add to the sugar mixture. Add boiling water while stirring. Sift the remaining ingredients together and add to the sugar mixture. Mix well. Place in refrigerator or cool place to chill for two hours. Drop by teaspoonfuls on greased baking sheet. Bake in hot oven (425 degrees Fahr.) 10 to 12 minutes. Yields seven dozen cookies. These cookies will remain soft for several days if kept in stone crock or jar. Make half the recipe if your family is small.

### Peanut Butter Molasses Cookies

- |                                      |                      |
|--------------------------------------|----------------------|
| ½ c. butter                          | 1 c. flour           |
| ½ c. peanut butter                   | ½ tsp. salt          |
| 1 egg                                | ½ tsp. soda          |
| ½ c. white sugar                     | 1 tsp. baking powder |
| ½ c. molasses (light table molasses) | Peanut halves        |

Cream butter and peanut butter together. Add sugar and then molasses, mix well. Add beaten egg. Sift flour, soda, baking powder, and salt. Add to molasses mixture. Mix well. Roll into balls the

size of a walnut. Put on cookie sheet. Flatten with floured spatula or fork. Decorate with peanut halves if desired. Bake in moderately hot oven (375-400 degrees Fahr.) 10 to 12 minutes. Yields about four dozen cookies.

### Aunt Jennie's Ginger Drops

- |                    |                      |
|--------------------|----------------------|
| ½ c. butter        | ¾ tsp. soda          |
| ½ c. brown sugar   | ½ tsp. baking powder |
| 2 eggs             | 1 tsp. ginger        |
| ½ c. molasses      | ½ tsp. nutmeg        |
| ¼ c. boiling water | ½ tsp. cinnamon      |
| ½ tsp. salt        |                      |
| 2½ c. flour        |                      |

Cream butter and sugar. Add beaten egg. Mix boiling water and molasses and add to mixture. Sift flour, salt, spices, soda and baking powder together. Add to first mixture. Beat up well. Drop tablespoonfuls on well-greased pan, three inches apart. Bake in moderate oven (350 degrees Fahr.) 15 to 20 minutes.

### Granny's Ginger Hermits

- |                           |                      |
|---------------------------|----------------------|
| ¾ c. butter or shortening | 2 c. flour           |
| ½ c. sugar                | 2 tsp. baking powder |
| 1 egg                     | ¼ tsp. soda          |
| ½ c. molasses             | ¼ tsp. salt          |
| 1/3 c. sour milk          | 1 tsp. ginger        |
| ¾ c. seedless raisins     | ½ tsp. cinnamon      |

Cream butter and sugar until light and fluffy. Add well beaten egg. Then add molasses. Mix and sift flour, salt, spices, soda, and baking powder. Add flour and milk alternately, a small amount at a time, to first mixture. Beat well after each addition. Stir in raisins. Drop by teaspoonfuls on a greased cookie sheet, two to three inches apart. Bake in moderately hot oven (400 degrees Fahr.) 10 minutes. Yields four dozen cookies.

### Ginger Refrigerator Cookies

- |                  |                      |
|------------------|----------------------|
| ½ c. butter      | 3 tsp. baking powder |
| 1 c. brown sugar | ½ tsp. salt          |
| 2 eggs, beaten   | 1½ tsp. ginger       |
| 1 T. milk        | ¼ tsp. nutmeg        |
| 2½ c. flour      | ¼ tsp. cinnamon      |

Cream the butter, gradually cream in the sugar. Add the egg and continue beating until light and fluffy. Add the milk. Sift the flour with salt, spices and baking powder. Blend into the creamed mixture. The dough may be rolled out on a lightly floured board and cut with a cookie cutter or formed into rolls about two inches in diameter, wrapped in wax paper and stored in refrigerator until well chilled or overnight. When you wish to bake the cookies, remove from refrigerator, slice about ¼ inch thick. Bake on lightly greased cookie sheet in moderate oven (375 degrees Fahr.) 12 to 15 minutes.

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For a casserole dish, cover with breadcrumbs and brown in the oven.



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### MAGIC PEACH LAYER CAKE

2½ cups sifted cake flour  
3 tsps. Magic Baking Powder  
½ tsp. salt  
10 tbsps. shortening (may be half butter)

1¼ cups granulated sugar  
2 eggs, well beaten  
¾ cup milk  
1½ tsps. vanilla  
½ tsp. almond extract

Sift flour, Magic Baking Powder and salt together 3 times. Cream shortening; gradually blend in sugar. Add beaten eggs, part at a time, beating well after each addition. Measure milk and add vanilla and almond extracts. Add flour mixture to creamed mixture about a quarter at a time, alternating with three additions of milk and combining lightly after each addition. Turn into two 8" or 9" round layer cake pans which have been greased and lined on the bottom with greased paper. Bake in moderately hot oven, 375°, 20 to 30 minutes. Put cakes together with halved or sliced peaches and whipped cream between and on top.



## Favorite Pies

Some pies and fillings which are ever-popular desserts at our house.

by M. MARY STANSFIELD

EVERY household has its favorite pies that are sure of approval no matter how often they appear on the table. Here are some desserts that are special favorites at our house. Years ago we had a student minister in our district who enthused about the Shoo-Fly pies of his native Pennsylvania. Ever since then they have been received with cheers at our place.

### Shoo-Fly Pie

¾ c. sifted flour	¼ tsp. baking soda
½ c. brown sugar	¼ c. hot water
Speck salt	¼ c. molasses
2 T. fat	

Line a nine-inch pie plate with pastry. Make crumbs with flour, sugar, salt and fat. Dissolve soda with hot water and combine with molasses. Add three-quarters of the crumb mixture. Mix and pour into the pastry lined plate. Top with remaining crumbs and bake for 10 minutes in a hot oven (400 degrees), then for 20 to 30 minutes at 350 degrees, or until firm. If the molasses is very dark use half as much. You will find yourself making twice the amounts of the above filling once your family has tasted this treat. Some people go further and garnish with whipped cream, but it is good without any topping.

### Bakewell Tart

This is another very filling pie that is popular in families from England. Line a pie plate with pastry, spread red jam or jelly on the bottom and pour over this a cake batter. Any kind of jelly or jam tastes good but red or purple provides a contrast.

### Batter For Bakewell Tart

1 egg	1 tsp. baking powder
6 T. sugar	¼ c. milk
1 c. sifted flour	1 T. melted fat
¼ tsp. salt	

Beat egg, add sugar or honey. Sift together the flour, baking powder and salt. Add to the first mixture with the milk and fat. Pour over the jam covered pastry, sprinkle with sugar or cocoanut or leave plain if preferred. Bake in a moderate oven until pastry is cooked and the centre of the batter is done. Serve with a custard sauce. Any favorite batter can be used instead of the above.

### Custard Pie

This is a prime favorite with many people but the difficulty of baking the undercrust properly is one reason why it

does not appear more often in many homes. Either the oven does not cook the pastry properly or the stove is too hot for the custard.

You can get over the difficulty by baking the crust and the filling separately and combining the two just before serving. You need two pie plates exactly the same size. Cover the under side of one with pastry. Prick well and bake in a hot oven (450 degrees).

### Filling

4 eggs	3 c. milk
¼ tsp. salt	Flavoring
½ c. sugar	

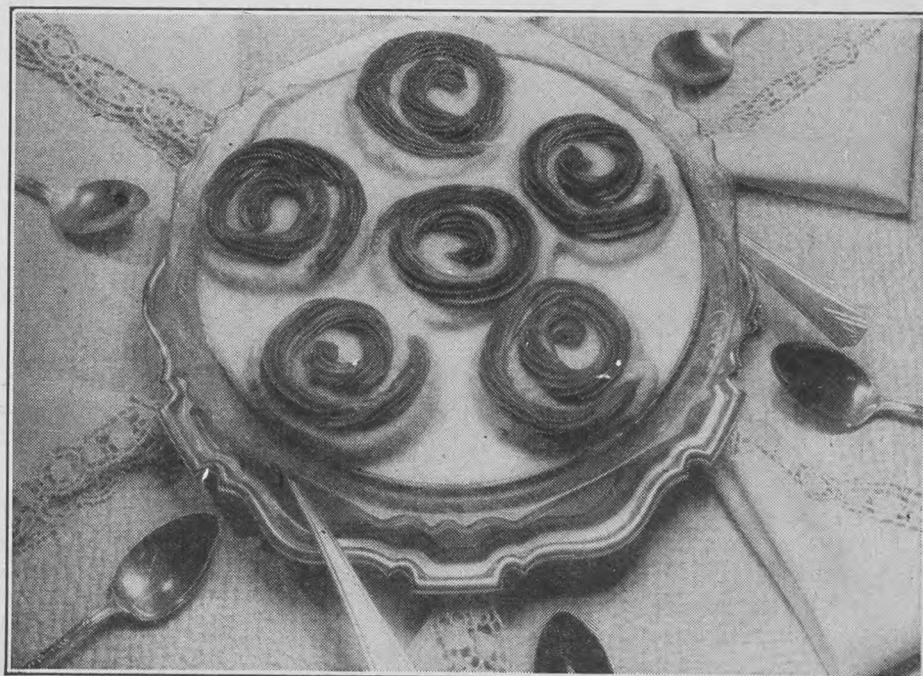
Beat eggs slightly, add salt, sugar, milk and flavoring. The mixture will cook more quickly if the milk is scalded first, but this is not necessary. If your pie plate is small use three eggs and less milk. Grease the pie plate and set it to bake in a shallow pan of hot water, just as you would a baked custard. Bake until set at 325 degrees. You can sprinkle nutmeg on top or use cocoanut for a change.

Now for the combining of the pastry and filling. Remove the shell from the pie pan to the serving plate or to another pie pan the same size. Wait for the custard to cool enough so that you can hold the plate in your hands. Loosen the filling around the sides with a spatula or knife, shake gently until it feels loose at the bottom. Then hold it directly over the crust and it will slide out easily. Sounds like juggling but you will be surprised how simple the trick really is. Do not make the transfer more than half an hour before a meal because the crust may lose its crispness.

Here is another way to get the same results. Chill the custard, loosen as above, place waxed paper over the top and then lay a cookie sheet on the paper. Turn the whole thing upside down, remove the pie pan and put the pastry shell in its place. Turn right side up. It is absolutely necessary for both the pie plates to be the same in depth and diameter for these schemes to work. Once you get the knack you will serve custard pie frequently because the undercrust is crisp instead of soggy.

### Special Toppings

For a birthday or some other occasion you may like to put a chocolate topping on your custard pie. Melt two ounces semi-sweet chocolate over hot water. Add 1 T. milk. Stir until smooth and glossy. Spread over the chilled custard as it sits in its shell. Serve as soon as the chocolate sets. Sliced bananas on top of a custard pie give it a festive look.



Special topping of chocolate lends a festive air to custard pie.



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## More For Your Money

Better looks and longer life for clothing through laundry care.

by MARGARET M. SPEECHLY

**M**ONEY in hand is indispensable when you shop for yardage or ready-mades, but no less valuable is the ability to make things last. Wealth of this nature enables you to retain the color, style and fresh appearance of clothing through repeated launderings.

To do this it is necessary to use the best method for each type of fabric, and to learn how to handle the new synthetic fibres that are appearing on the market. Treatment suitable for sturdy cottons and linens would soon wreck rayons, woollens, silks and synthetics, so you can chalk up real savings if you use a tub and plunger for the baby's woollies, your own silk underwear and the wool socks.

Rayon has many good points, but it is weaker wet than dry and therefore needs careful handling. If you put your rayons in the machine, make up a separate load and operate it for not more than three minutes. Do not include them in a load with heavier pieces that would strain the fabric and the seams, or roughen the surface.

In washing household linens woven of two fibres, use the safest method for the weaker fibre. If cotton and rayon are combined, you will save money by treating the fabric as rayon. Even if cost were no consideration, the right procedure pays because you will have less mending to do.

Keeping clothes trim and neat goes beyond the actual washing process. As wet fabrics are heavier than dry, aim to hang each piece so there is the least strain on its construction. Of the two sets of yarns used in weaving, the lengthwise (warp) are stronger than the crosswise (filling), and are designed to take the greatest wear. Garments wear longer and look smarter if they are hung so that the greatest strain is borne by the tougher threads.

**T**HE same is true with sheets and of tablecloths. Fold them hem to hem, wrong side out and secure to the line with four pegs. This places the main weight of the wet fabric on the warp or lengthwise threads. Be sure to turn at least 12 inches of the ends over the line to prevent whipping or fraying of hems. Pinning securely keeps the edges straight and simplifies ironing.

Towels of all types dry more rapidly, in better shape and with less strain, if one end is pinned flat over the line rather than if it is pinned by the corners. Pillowslips dry sooner if attached by half of the open end using two pegs. This allows the wind to remove wrinkles.

Cotton garments are best hung inside out, by the strongest parts with the weight well distributed, pyjama tops and shirts by the tail, and pyjama legs, shorts and slacks by the waist, so that the wind can blow through. Never use clothes pins for rayon garments because they are weaker when wet and are liable to be permanently pulled out of shape.

Rust-proof hangers are a good investment for dresses and blouses as they keep the shoulders in shape and prevent seams from being strained.

Hangers will not blow off the line if you use two for each article with the hooks in the opposite directions. A peg on either side of the hanger will prevent sliding.

Instead of hanging sheers, organdies and voiles, roll them in thick towels to absorb the moisture. Delicate fabrics dry more evenly when treated like this, and there is less chance of their being strained by the weight of the water.

Nylon fabrics and hosiery wash easily, are unusually strong when wet and if properly handled do not need ironing. Let them drip dry without even squeezing, because wrinkles made when wet, tend to persist when dry.

To avoid wrinkles, do not wring dresses of seersucker. Squeeze out as much water as possible, re-shape seams and stitching with your fingers, pad the shoulders with paper towelling, place on hangers and dry in the shade. Squeeze the moisture from cotton jersey dresses, but do not hang lengthwise or use pegs. Lay the garment over the line along the vertical centre, with the weight distributed evenly. Silk and rayon jerseys need the same anti-sag care as woollens.

If you want colored cotton garments to remain fresh to the end, buy only those guaranteed to be sunfast and washable. Follow up this with careful handling. Avoid over-soiling, very hot water, and strong soaps. Rinse out every bit of soap. Dry in the shade or indoors because even the best dyes are more liable to be damaged by the sun when wet.

**I**N seeking to get the best value for your money, make sure that the climate is not robbing you. Sunshine by its bleaching action helps to prevent the yellowing of white cottons and linens, but this same power fades the most beautiful colors. Worse still, it is positively destructive to rayons, woollens and silks.

A nice breeze dries the wash and removes lots of wrinkles but a high wind ages textiles of all sorts. Letting things flap for hours in a strong blast is responsible for frayed edges, whipped hems, rips, tears, strained seams and the general weakening of the yarns. It is literally throwing dollars to the winds. If a tempest suddenly gets up, you will save money by hanging the clothes indoors.

Then consider the effect of frost upon wet clothing. Extremes of temperature are destructive to silks, woollens, rayons and many of the newer fibres, so if you want to get your money's worth, dry them indoors during freezing weather. Keep them away from the stove or the register. If you are convinced that frost works magic with white cottons and linens, put them on a rack and move it out on to the verandah.

Learn all you can about the best methods of handling textiles and as you build up a fund of information you will get greater returns in satisfaction.

## A HALO for the HOSTESS

WHO SERVES  
THIS ROYAL TREAT!



### FRESH FRUIT PARFAIT

- 1 pkg. Royal Raspberry Gelatin
- 1 cup boiling water
- 1 cup cold water
- few grains of salt
- 1 cup crushed mixed fresh fruit, sweetened to taste
- 1 cup sweetened whipped cream.

Dissolve Royal Raspberry Gelatin in boiling water. Add cold water and salt. Cool until mixture begins to thicken. Add cup of fresh fruit. Chill until firm. Alternate spoonfuls of gelatin and whipped cream in tall parfait glasses using cream for top spoonful. Serves 6.

Tender, ripe raspberries glowing with full, rich color... brimming with dewy-fresh flavor... that's what comes to mind with the very first spoonful of this mouth-watering dessert! For here's jelly that's deeper in flavor... more sparkling in color... than any you've ever tried! Try all delicious Royal Gelatin Desserts — strawberry, raspberry, cherry, orange and lemon.

## Royal desserts

Royal  
PUDDINGS

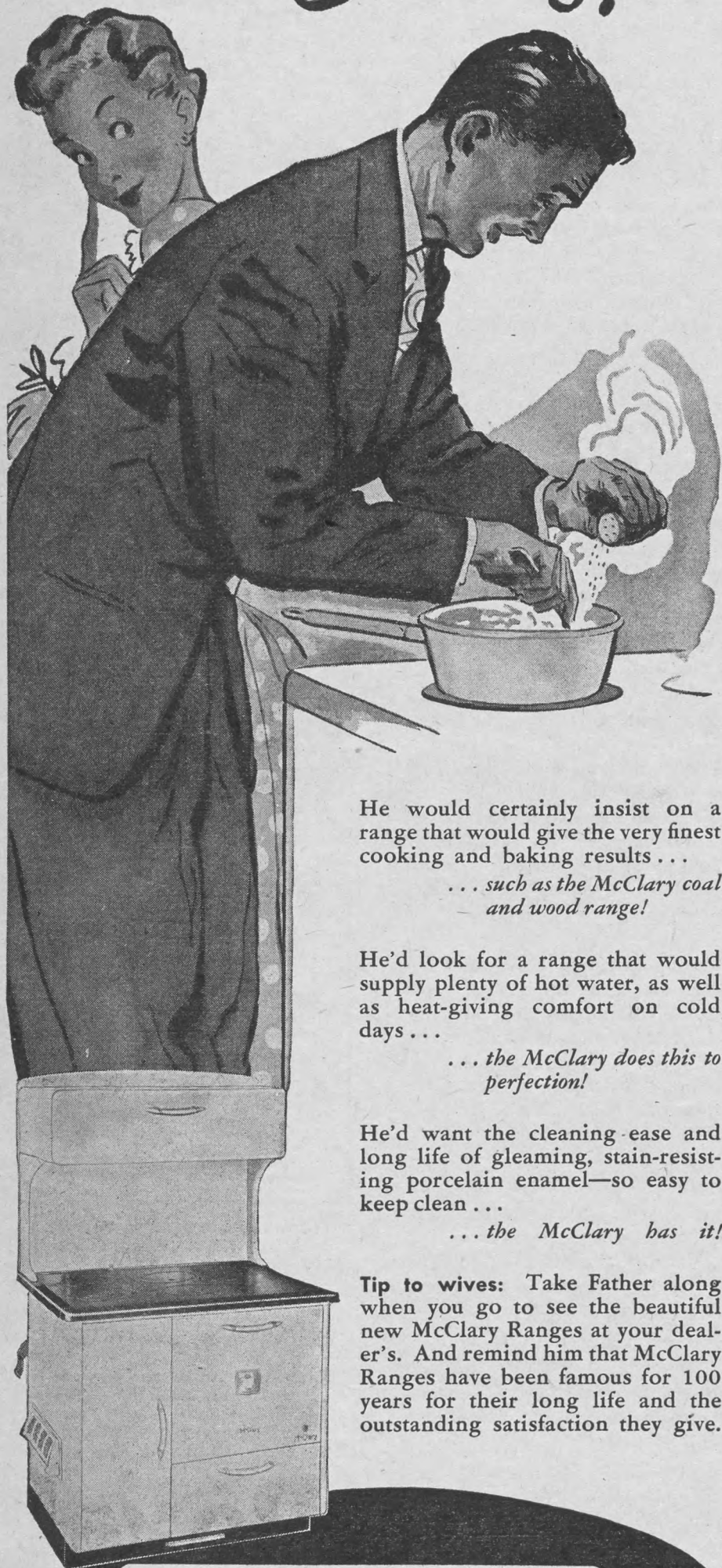
World Famous  
For Flavor!

Royal  
TAPIOCA  
PUDDINGS

Royal  
GELATIN  
DESSERTS



# IF FATHER did the Cooking!



He would certainly insist on a range that would give the very finest cooking and baking results...

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He'd look for a range that would supply plenty of hot water, as well as heat-giving comfort on cold days...

... the McClary does this to perfection!

He'd want the cleaning ease and long life of gleaming, stain-resisting porcelain enamel—so easy to keep clean...

... the McClary has it!

**Tip to wives:** Take Father along when you go to see the beautiful new McClary Ranges at your dealer's. And remind him that McClary Ranges have been famous for 100 years for their long life and the outstanding satisfaction they give.

**McCLARY**  
COAL & WOOD RANGES

Since 1847



PRODUCTS OF GENERAL STEEL WARES LIMITED

## Herbs Add Interest

Plan garden features to liven flavor of cooked foods.

by ADDIS MILL

"NEXT spring I will plant some of this," said Nellie Cooper, as she shook some thyme out of a bought tin into the stuffing for her Christmas turkey. "And I won't forget *this* year," she added, "I'll put a ring around March 1 on this new calendar and mark it 'get herbs'."

In the meantime she decided to find out all she could about herbs, for she wanted more than thyme. She went to her gardening friend, Mrs. Morris. "I suppose you grow parsley," began Mrs. Morris.

"Oh, yes, though it's so slow coming up sometimes I forget where it is and hoe it up for weeds."

"Try planting radishes with it. They will break the ground and you will have them eaten by the time the parsley is showing."

"That's an idea. I love the flavor of parsley in so many things—sauce over fish, potato soup—in fact nearly every kind of soup."

"So do I. This year I'm going to try a relative of parsley—coriander. It is grown for its seed, not its leaves. You know those little round candies you get to scatter on cakes. They contain coriander seeds, but I want it to put in pickling spice. It should ripen about August 1, just in time for the pickling season. Not many seed catalogs list the seed, so if I can't find one that does I'll try some I've bought for pickling spice, though it's not likely to be fertile."

"What does it look like?"

"Oh, it grows about three feet high, with thin leaves. The strange part of it is that it has an unpleasant smell and a nasty taste until dried, when it turns fragrant and sweet-tasting."

"I must see it, when it is growing."

"Now, have you mint?" asked Mrs. Morris.

"Yes, I have, but I almost wish I hadn't, the way it spreads all over the garden, though I do love it on mutton, or in new potatoes."

"I'll tell you how to fix that. Carefully clean up all but a patch the size you want. You could use the rim of an old wheel if you had one, or else get Jim to make a sort of bottomless box and sink it in the earth around your mint bed, and you'll be troubled no more. Mint is one herb that does well in a damp place, unless you count watercress, which grows right in the water. There is some in the ditch in front of the house if you want to get a start. We have some lovely salads from it."

"I must get some later on. I know just the place to put it. You think most herbs need a drier place then?"

"Well, they need sunny, well cultivated soil, some such as basil like rich soil and winter savory does well in poorer soil."

"Do you grow savory? I've never used it."

"Oh, yes, it's one of the best herbs. Summer savory is an annual. You should try it in pea soup, pork pie or sausage. It's quite a pretty thing, about eighteen inches tall, with purplish flowers. You pick it when it is in bloom and dry it in the shade. Winter savory is more creeping—looks

nice in a rockery. Thyme is something else you can put in your rockery and pick all the year round in more moderate parts of the country. You can start it from seed, but I must give you a cutting of lemon thyme when the frost gets out of the ground, for they say you get a stronger plant with a better flavor from cuttings. Did you ever try thyme with Kentucky Wonder beans?"

"No, is it good?"

"We like it. After you have cooked the beans in as little water as possible, add some bacon dripping, pepper, and a sprig or two of thyme. It really does something to the beans when you are beginning to get tired of them. Lemon thyme is specially good on fish."

"What about sage?" Nellie asked.

"Easiest thing in the world to grow and about the handiest. It's a perennial, but you can use it the first year. I've read that it's good as a gargle, and the Chinese used to value sage tea so highly they would give four pounds of tea for one pound of dried sage. Of course, you use it in stuffing, but have you tried it in soup? That's the beauty of having plenty of your own herbs—you can experiment."

"Well, thanks so much. I should have a wonderful herb garden this year."

"Wait a minute. There must be more. Why, lavender, of course—to put between your sheets. And you'll want dill for pickles. It makes quite a nice background plant with its little yellow flowers. Some people like the flavor with fish. And what about caraway? Some like it in cake, some don't, but I like it in soup. Very unusual."

"I must write these names down or I'll forget half of them."

"I'm going to give you cuttings of some. Be sure to remind me—lavender, lemon thyme, winter savory—now is there anything else. How about chives? You know. Those little clumps of onions that stay green all year round. They do something to your salads and soups, and try them chopped up in cottage cheese or hamburger. I try out at least one different plant each year and this year it's going to be basil. I tasted a stew with some in it—it reminds me of cloves—and really, it put that stew in a class by itself."

"Well, I'll be along to get my cuttings," said Nellie, "and if I grow half of these things I should have a super stuffing in next year's turkey."

### Moral: Don't Guess

She guessed at the pepper, the soup was too hot;

She guessed at the water; it dried in the pot;

She guessed at the salt, and what do you think,

For the rest of the day, we did nothing but drink.

She guessed at the sugar, the sauce was too sweet;

And by her guessing, she spoiled the meat;

What is the moral? It's easy to see, A good cook measures and weighs to a "T."





Mrs. Anne Schnepf of Alix, Alberta, among her dahlias.

## She Grows Dahlias

When her friends see flowers they think of Anne Schnepf.

by BARBARA V. CORMACK

WHenever anyone mentions dahlias in our part of the world we all immediately think of Anne Schnepf. Last summer, when we saw a big store window filled with all kinds and varieties of super-fine dahlia specimens, each carefully tagged and named, we said, without any fear of contradiction, "Those must be Anne Schnepf's flowers." And when, in the winter time with icy blasts howling and several feet of snow on the ground we go to club meetings or possibly to the home of a sick friend and find dainty little posies sitting about, we say, "Aha, Anne Schnepf must have been here."

There are many different kinds of individuals belonging to the flower growing, or "green-fingered" fraternity. Some concentrate on making show places of their homes. Others get their biggest thrill in exhibiting and winning prizes at shows. Still others are chiefly interested in the commercial aspect of their hobby. For sheer joy in the flowers themselves and bubbling-over enthusiasm in the growing of them you can't beat Anne Schnepf, or, if you want to be more formal, which not many of us are as far as she is concerned, Mrs. Morris Schnepf, who, with her husband, lives on a farm three and a half miles south-east of Alix, Alberta.

Mrs. Schnepf does not spend all her time growing flowers. She milks cows, raises chickens, puts in a large vegetable garden and does her share of outside work and the many chores which a busy mixed farm operated by two people entails. But it is her flowers, dahlias in particular, and her big collection of house plants that provide her with her greatest outside interest. It is by them that we know her best.

Anne Schnepf has always loved flowers and grown them but she did not begin raising dahlias until 1920 when she bought one root and was given another by a friend. Now by natural increase and careful selection she grows several hundred of them, and has most of her neighbors doing it too! In her garden can be found dozens of varieties, some well known and others rare, varying in all classes from the dainty little Miniatures, Col-

lorettes, to Orchids, Charms and Pompons to the monster Cactus, Show and Formal Decoratives, many of which grow to a height of over six feet. In the latter half of August and the beginning of September there are many carloads of visitors to the Schnepf farm to see the dahlia garden, and the trips are very much worth while.

THE flowers formerly were grown in the very attractive garden near the house. Shrubs, perennials, rockery, lily pool, etc., all added their charm to the general effect but of late years brome seed has blown in from a field west of the windbreak and has got the better of them. Though this is gradually being reclaimed the main garden of annuals, gladioli, dahlias, is now found in the former vegetable garden. This patch is plowed in the fall. Manure is the only fertilizer used. The vegetables were relegated to another patch and present no small show themselves. This fall at the local Harvest Show Anne Schnepf exhibited a pumpkin of 45½ pounds and a squash of 27½ pounds.

Mrs. Schnepf has taken many awards with her flowers both at our local Flower Show and also at larger centres farther from home, but she takes her chief pleasure in giving them away to those who appreciate them. She hardly ever seems to leave the house without bouquets for some sick neighbor, someone celebrating a birthday, a party or meeting somewhere. In the dahlia season the stores in town are full of them. Just lately, now that the tubers are increasing so tremendously in popularity, she has been urged to sell some. Though she did not like the idea at first she finally consented, using the money thus obtained to buy more roots, or to help out young people's garden clubs and the like.

A more recent interest has been the growing of dahlias from seed. This always constitutes a thrill for her because the seed dahlia hardly ever breeds true to the original plant and there is a pleasing element of surprise about the business. In addition to her gardens she has a very fine collection

## "Orange Drop Biscuits!" Made in a jiffy - no cutting - no rolling!"

— says Rita Martin

"You can have two dozen of these delicious orangy biscuits baked and on the table in twenty-five minutes or less! The tangy nip of orange gives them a refreshing, different flavor!"

"And of course, made with Robin Hood — the guaranteed all-purpose flour — you'll find them the lightest, easy-to-make cookies ever! Your family will say 'm-mm — good!'"



### ROBIN HOOD ORANGE DROP BISCUITS

#### Here's all you need:

2 cups sifted Robin Hood Flour	1½ teaspoons grated orange rind
3 teaspoons baking powder	¼ cup shortening
1 teaspoon salt	1 egg, beaten
2 tablespoons sugar	⅔ cup milk

Serve them to the kiddies as an after-school snack — during afternoon tea with a neighbor — or just *anytime*! Their feather-light texture is due — *naturally* — to Robin Hood Flour — the all-purpose flour used by 4 out of 5 of Canada's baking contest winners! It's *guaranteed* to make your baking better — or your money back plus 10%!

Make Robin Hood *your* flour, today and every day! For better baking — for *all* your baking use Robin Hood!

#### Here's all you do:

Sift Robin Hood Flour, baking powder, salt and sugar together.

Add orange rind to sifted dry ingredients.

Blend shortening with dry ingredients and orange rind.

Combine egg and milk

Add to flour mixture, stirring until flour is well moistened.

Drop by teaspoons onto an ungreased baking sheet.

Bake in hot oven (425°F.) for about 15 minutes.

Yield: 2 dozen average size biscuits.

#### A WORD FROM RITA MARTIN:

"These orange drop biscuits are *easy* and what's more they *save* baking time — an all-important factor to the busy farm-wife.

"And by the way, if I can be of any help to you in your baking, please write me, won't you? Simply address a card or note to me *anytime*.

"My help is absolutely free — you are in no way obligated."

*Rita Martin*

Director, Home Service Department,  
Robin Hood Flour Mills Limited,  
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— used by  
4 out of 5 Prize Winners

The certificate in every bag guarantees your money back, plus 10%. If you are not completely satisfied. So Robin Hood is really the guaranteed all-purpose flour.





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Easy to Use

# "SALADA"

## TEA BAGS

### Have finest FLOOR PROTECTION at popular prices!



It actually costs no more for the wonderful lustre and stout protection that genuine Johnson's Wax provides! Floors, furniture and a hundred other surfaces glow with new richness, when you apply a thin coat of this famous home beautifier! In Liquid or Paste form Johnson's Wax is still Canada's first choice.

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**JOHNSON'S WAX**

Hear Fibber McGee & Molly,  
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## THRIFTY MEALS

1. The old-fashioned Saturday Night treat has become a standby for almost any meal, any day of the week. Pork and Beans, as made by Heinz, provide a maximum of nourishment at minimum cost.



2. For meatless meals there is no thrifter, more satisfying main dish than Heinz Oven-Baked Beans Without Meat in Tomato Sauce . . . that luscious spicy sauce only Heinz can make.



3. For variety coupled with economy try Heinz Oven-Baked Red Kidney Beans with Pork. On the label you'll find a recipe combining ground steak, chopped onion, etc., in a delicious nourishing Chili Con Carne.

B-9FP



# HEINZ OVEN BAKED BEANS

# 57

of house plants, cacti, ferns and all manner of flowering plants, so she is able to keep gardening all winter long, and her big bay window filled with plants is a joy to behold.

Anne Schnepf says that the last few years have been very hard on dahlias. The tarnish bug is probably the worst offender. Cutworms would take every plant if they were not protected with collars. As in all aspects of growing things there is a big element of chance and frequent discouragements. Even in the storing of dahlia roots one can never be sure what one will save through the winter. Like many other stock, the more costly the roots the harder they are to winter.

The digging, tagging, storing, dividing of the roots is in itself a monumental task. For Anne Schnepf the result of all the toil is very much worth while. She says, even though she never seems to be able to get away on a vacation, it is one of her great delights to have her friends say, on their return . . . "We saw the grandest flowers. Wish you could have seen them too . . . They reminded us of you."

### Countrywoman

Continued from page 79

providing physician's care cover a much smaller number of persons. Saskatchewan pioneered in the provision of hospital services for all residents. There is a complete coverage on an annual fee basis with a maximum for a family. British Columbia is instituting a similar service in 1949.

IN the leading article, Rt. Hon. W. L. Mackenzie King points out that, in the last 25 years, Canada has become more of an industrial than an agricultural state. "While far-reaching material changes were taking place a corresponding development in the general social consciousness was much slower in making itself apparent. Nevertheless, there was a growing feeling that the State, which made possible the growth and expansion of industry, had a responsibility for helping to meet the social and human problems to which it had given rise. Private agencies were being established to meet certain glaring social needs. Governments, responding to the public will, were taking more interest in social security measures. . . .

"Under the trials of the depression period, real progress was made in the development of a consciousness of social responsibility. In 1939 came the Second World War . . . Men and women were compelled to think deeply on the social problems of life and the causes of human injustices. There came to be a growing belief in the necessity of a new and better order.

"The new order seeks to shift the emphasis from the sacredness of possession to the sacredness of life; to weigh more heavily the values of personality and its rights than the values of property and its rights; to contrast with natural resources the too long neglected but more precious human resources."

## For Quick Cough Relief, Mix This Syrup, at Home

No Cooking! No Work! Real Saving!

You'll be surprised how quickly a bad winter cough can be relieved, when you try this well known recipe. It is universally used throughout Canada because it gives such gratifying results. It's no trouble at all to mix, and costs but a trifle.

Into a 16 ounce bottle, pour 2½ ounces of Pinex; then fill up with granulated sugar syrup to make 16 ounces. Syrup is easily made with 2 cups of sugar and 1 cup of water, stirred a few moments until dissolved. No cooking needed. Or you can use corn syrup or liquid honey, instead of sugar syrup. This makes four times as much cough medicine for your money. It never spoils and tastes fine.

Quickly you feel its penetrating effect. It loosens the phlegm, helps to clear the air passages, and soothes the irritated membranes. This three-fold action explains why it brings such quick relief in distressing coughs.

Pinex is a special compound of proven ingredients, in concentrated form, well known for its soothing effect on throat irritations. Money refunded if it does not please you in every way.

## DON'T SAY "BREAD" SAY McGAVIN'S

McGAVIN'S *Good* BREAD

## ROGERS' GOLDEN SYRUP

Made From Pure Cane Sugar

A quick energy food good to taste and good for you.

Write for a free Recipe Book. B.C. Sugar Refining Co. Ltd., Vancouver, B.C.



# Spring Needlework

A collection of workable designs for attractive home and costume features.

by ANNA DE BELLE



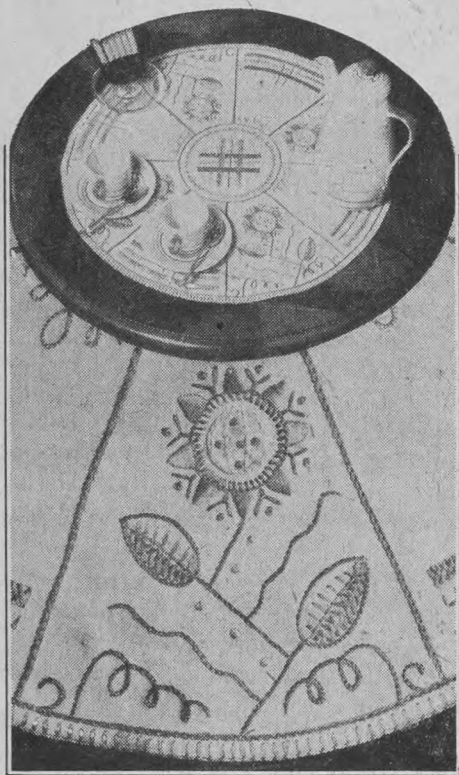
Design No. C-332.



## Suit Fronts

While we have illustrated only two, there are actually three suit fronts in this one pattern—the knit lacy one and the striped crochet one pictured here and one other crocheted style. There are also directions for making the very feminine tube hat the one young lady is wearing. Pattern No. C-332, price 20 cents.

## Linen Coffee Table Centrepiece



Design No. 820.

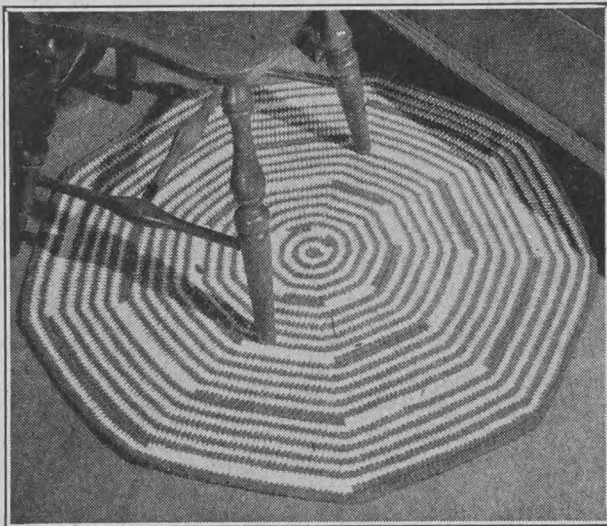
Because this lovely piece of needlework measures approximately 18 inches across, it can be used as a dining table or occasional table decoration as well as a circular tray or coffee table mat. You will enjoy the interesting and colorful embroidery. Stamped on lovely quality cream embroidery linen and complete with working chart. Design No. 820, price \$1.00. Threads are 40 cents and include blue, mauve, canary and lemon yellow and green.

March "GOOD IDEAS" NEEDLEWORK BULLETIN is now ready. Contains needlework patterns and ideas, also catalog of needlework. One copy free of charge is included with each order for stamped needlework or needlework patterns. Single Bulletins are 5 cents plus 1 cent for postage. For 50 cents we will mail the Bulletin to you once a month for 12 months. Send orders for needlework and Bulletins to The Country Guide, Needlework Department, Winnipeg, Man.

## Gay Crocheted Mat

Design No. C-353.

While string or wool are the materials suggested for this hit-and-miss circular mat, the same directions could be used for crocheting a rag rug, if you wish. We like this idea because it permits the use of odds and ends of yarn. Nice for bedsides, firesides, beside the kitchen sink or just any place where color and a mat are an asset. Pattern No. C-353, price 20 cents.



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- Treadle — long or round bobbin.
- Cabinet Electrics — cabinet, console, desk models.
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- Electric Featherweight Portable — only 11 lbs. but does full-size job.

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Complete electrification only

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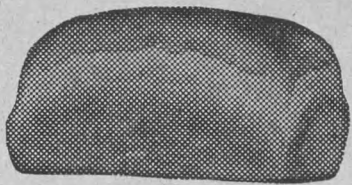
includes a SINGER Motor — Foot Control — SINGERlight and installation

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# Bread like this?



It's easy  
to make  
with

## HERE'S HOW

to do it with Best Hi-Do Yeast!

1 pkg Hi-Do Yeast    4½ cups lukewarm water  
2 tbspn melted lard    3 tbspn sugar  
12 cups sifted flour    1 tbspn salt

Dissolve 1 tspn sugar in ¼ cup water. Add 1 pkg Hi-Do. Let stand 15 min. Beat together lard, sugar, salt, 6 cups flour, remaining water until smooth. Stir yeast; add to batter. Beat slightly. Add remaining flour. Mix smooth. Place in greased bowl in warm place to rise to double bulk. Punch down. Let rise again 15 min. Cut and mould into loaves to half-fill greased pans. Cover. Let rise 1 hr. or to double bulk. Bake ¾ to 1 hr. Can substitute milk for water, butter for lard. Use 2 pkg. Hi-Do for quicker results.

BUY HI-DO TODAY!

BEST YEAST LIMITED  
THOROLD, ONTARIO



# VEL WASHES LIKE MAGIC

CLEANS SEPARATORS  
IN 2 MINUTES

VEL flushes milking equipment clean of milk fat and slime. Almost no brushing needed.



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In test after test the fast VELocity cleaning method left milking equipment with lower bacteria count. Send for free instructions on the VELocity cleaning method.

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1. Makes hard water act soft.
2. Cuts grease, leaves no soap scum.
3. Washes perfectly in cool water.
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YOUR PRECIOUS WOOLENS  
STAY SOFTER, FLUFFIER

VEL dissolves completely, washes perfectly in the lukewarm water safest for woollens and fine washables. No soap scum. Colours stay brighter. Woolens stay softer, fluffier.

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TEAR OFF AND  
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Write for booklet "The Farmers' Friend"—tells you many ways VEL saves time, work, money, in all farm cleaning. Address VEL, Toronto. Dept. FP7

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# Your Beauty Problems

Looking at minor faults and making an effort to better them.

by LORETTA MILLER



Kathleen Bryon, new British star, pays attention to grooming details.

**D**O you think your particular problem is different from those of other girls? Do you think you are the only girl in the world with a skin problem or who has a difficult time finding a more becoming hairdo? Let me put down some of the problems that come to this desk most frequently. Perhaps their solution will help you, too.

**Question:** When I was 17 years old I was five feet tall and everyone thought it was nice to be tiny. As a matter of fact I didn't object to it then . . . but I do now. I'm 23 years old now and would give anything if I could grow two inches. Do you think there is a chance? Can you help me, please.—D. B.

**Answer:** There are records of both men and women who have grown as many as four inches after they were 20 years old. Perhaps you can add inches to your height by following the routine which has proved so beneficial to others. First, you must always stand "tall" with your shoulders straight and your head held high. Try to hold your hips so that your body actually feels and looks taller when you walk. As for specific exercise you will find the stretching action helpful. Stand erect and stretch your body to its full height. Then raise your arms straight up and stretch them by reaching as high as you can. If you have a frame above your door, try hanging on to it while you let your body swing to the count of five. Relax and repeat five times. Increase the number to ten by the end of the third day and repeat daily. Then lie flat on the floor and stretch your body to its full length as you stretch your arms straight up over your head, palms of hands turned up. Relax and repeat ten times. To hasten the growing process, you may repeat this schedule morning and evening. Results are slow, to be sure, but perhaps you will be as fortunate as others who actually have increased their height.

**Question:** I never seem to get the edges of my nails smooth. I use clippers on them when they get too long, then I use a file, but for several days they snag my stockings and occasionally the edges of my nails tear. What can I do to make my nails smooth and to prevent them from breaking and tearing?

**Answer:** First of all you must use a nail file or emery board for shorten-

ing and shaping your nails. Never use clippers. When filing the nails it is well to file from the side of the nail toward the centre of the nail point. Be careful not to go against the grain or the edge is likely to be rough. If you wish, after smoothing the edges, you may paint over them with a coat of colorless or transparent nail polish. This will make the edges seem smoother and they won't catch into your stockings. They will be less likely to tear, too.

**Question:** I notice that many of my friends have beautiful, lustrous hair, while mine seems quite dull. I asked what they used as a shampoo and was surprised to find it is the same as I use. Is it possible that one shampoo would make my friends' hair so lovely while it wouldn't do a thing for mine? Maxine.

**Answer:** Your friends may be conscientious followers of the thorough-brushing-every-night-routine, or it may well be that you are not using the shampoo correctly. Have you read full directions that come with the shampoo? Try giving your hair an extra lathering, and be most thorough in rinsing all soap from hair and scalp. In addition to frequent shampoos, brush your hair well every night and be sure that your brush is kept clean. Either of these, or perhaps both, will soon put beautiful highlights in your hair.

**Question:** My skin is extremely sensitive and the least breeze makes it chapped and scaly. Then, of course, I can't make powder stay on and it appears more scaly than ever. Please suggest something that would make my complexion look smoother. Blanche.

**Answer:** A very thin coating of any good oil or so-called lubricating cream smoothed on before putting on make-up would serve as a foundation and preventive against chill winds. After exposure, and always before retiring, massage a liberal quantity of greasy cream or oil into your skin. So-called texture or lubricating creams will prove most beneficial. Avoid using soap and water just before going out-of-doors, or if you do use this cleansing method, follow the thorough drying of your skin with an application of cream or oil. With just a little lubrication your skin should retain its smoothness in spite of frequent exposure.

**Question:** I live quite a ways out and it is not always easy for me to go to the city for a haircut, and my hair grows very fast. I really should have it thinned out every three weeks and am wondering if I could do it at home with special scissors. Do you know how I could manage my hair thinning and cutting at home and will you please let me know what you think of permanent waves given at home? Fran.

**Answer:** You can get special thinning shears in any good cutlery store and I feel sure you will find them splendid. Or, if you wish, you can thin out your hair by using any pair of sharp shears. Do it this way: Part your hair in a two inches square section, then hold the strand of hair in one hand while you rough it with your





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comb. Finally cut off the end you are holding with a sliding motion. Or, you will accomplish the same result this way: Section off a square lock of hair and twist it rope fashion. Then run your hand from the end of the twisted strand toward your scalp, roughing up all the ends and finally cut off these ends. Next, hold the strand of hair with one hand while you use the scissors for roughing and cutting. When directions are carefully followed the home permanents are completely satisfactory. Because the manufacturers are constantly improving these permanents, there are frequent changes in their use and for this reason directions should be read each time a permanent is given.

**Question:** My skin is really quite nice but I have a number of blackheads over my nose. I wash my face very well several times a day, and use only a light make-up. Do help me. A. L. P.

**Answer:** Your problem can be solved in a very short time. Simply use a mild soap, warm water and a soft-bristled complexion brush over the unattractive area. Scrub until the skin tingles and turns pink, then rinse off all soap with warm, then very cold water, and rub the skin with a coarse textured towel. The scrubbing with a brush and firm rubbing with a coarse towel is for the purpose of stirring up circulation. If you wish, you may cover your fingers with a clean towel or kerchief and press the most conspicuous impurities from the pores. Finish by dashing ice cold water over your face. In addition to this external care, it is well to avoid an abundance of starches, fried and greasy foods in your diet. Also get lots of exercise and fresh air. I feel quite certain this will prove beneficial.

Never let any beauty disturbance get the upper hand! If overweight is your specific problem, take care that you lose those first three or four pounds and you'll never have a major figure problem. If your skin is sensitive, try to guard against every cause that might upset your smooth complexion by using preventive measures. Preventive measures may mean the difference between always looking your loveliest, and looking nice only occasionally. Preventive measures mean year-round good looks!

## Spring Style Story

Continued from page 82

lovely appearance. Genuine leathers are being shown in rich designs and colors. For dress up and evening wear, little corse and fabric purses are both dainty and handy.

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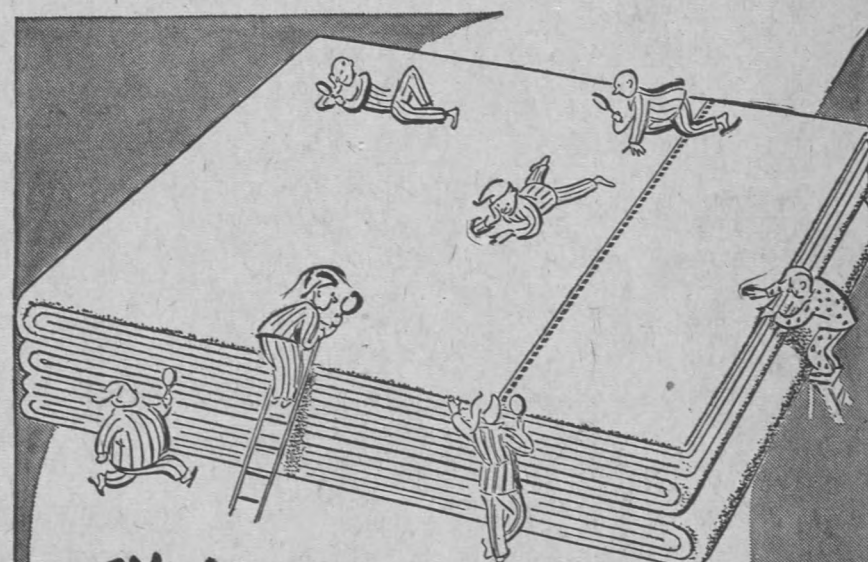
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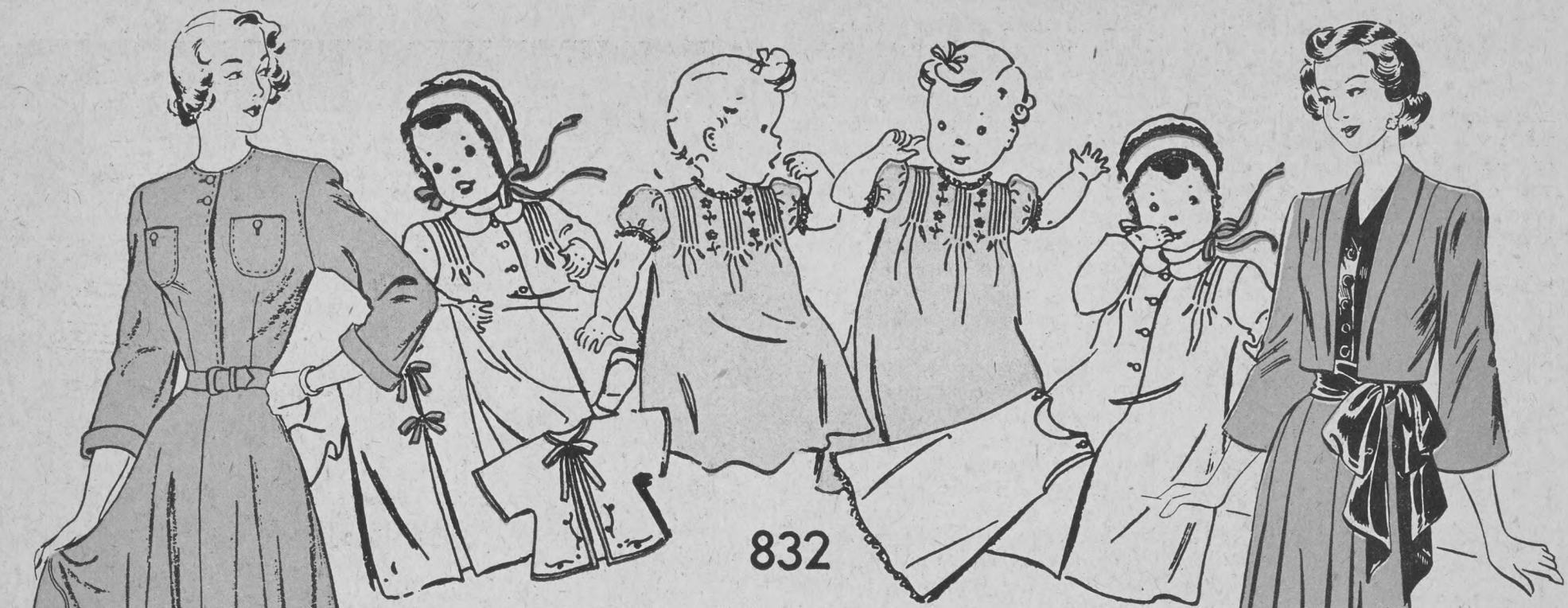
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385

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532

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294



## The Twisted Face

Continued from page 17

"No," replied my uncle. "But the lane behind Miss Carey's house is off the beaten track. Unfortunately, in our present state of public morals, young people look for just such isolated spots. A few wheel-tracks, half-smoked cigarettes, merely indicate that in Doverton, as elsewhere, nature continues to take its course. Unless someone can be brought into the case who had a motive for killing this man Kolker, such evidence means nothing."

"But, if Jeff didn't go upstairs, who searched Miss Carey's bedroom?"

"Kolker, arriving much earlier, may have done so."

"And then Jeff came . . . and killed him for what he'd found . . ."

The Judge shook his head.

"I prefer not to jump at conclusions," he said gravely . . .

**W**E went out to Sandy Point next morning at a little before ten. Miss Martin looked particularly angelic, I thought. Nothing was said, of course, about our session with Jeff Carey.

We found Lem Purnell standing in front of the house, talking to a short, gnarled little man with furtive eyes and a harsh, ill-tempered face. When my uncle spoke to him he gave a hostile nod but did not reply.

"I got Elmer up here," Lem said, "to identify the hammer. He tells me it was kept with some other tools down-cellar."

"I busted the handle of it myself," the small man asserted truculently. "Driving a tenpenny nail. Fixed it with tire-tape. Miss Carey wouldn't spend a nickel . . . like some other folks I know." He darted a violent glance at my uncle. "If that's all you want of me, reckon I'll git along home!" He stalked off abruptly.

The Judge gazed after him, frowning.

"Elmer did odd jobs about the place for Miss Carey," he explained to Miss Martin and me. "Carpentering, painting. He is handy at any sort of work, but . . . untrustworthy. He has a shack not far away, down on Elk Run; takes parties out, ducking, fishing. Sells them bootleg liquor. He was very anxious, for some reason, to have me engage him as caretaker, to look after the house, when Miss Carey died. I refused, of course. Not because of the expense alone . . . the fellow has a bad record. I had him before me once, in a shooting affray." My uncle turned to Lem. "Shall we look at that room now?"

We went into the house. As we passed the door of the library Miss Martin shuddered. Lem Purnell reassured her.

"Doc Richardson had the remains carried in town for the inquest," he said.

The girl thanked him with a swift smile, and we went up the stairs.

Miss Carey's bedroom was near the head of them; I stood in the doorway of it, gasping. In spite of what Lem had told us I was not prepared for such a scene of destruction.

The knobs had been smashed from the posts of the old-fashioned maple bed, as if to make sure they contained no secret hiding places. Its hair mattress, ripped open, lay in a corner

like hay, and the chairs in the room had been similarly disemboweled. In places the carpet had been torn up and the flooring splintered. The bricks of the fireplace now stood in piles. Even the pictures had been removed from the walls and their frames wrenched apart.

"As I told you," Lem Purnell drawled, staring at the picture frames, "you wouldn't think they were looking for books."

"No," my uncle agreed. "How long do you think it took to do all this, Lem?"

"Two or three hours, at least."

The Judge glanced down at the top of a small table. Too fragile to offer a place of concealment, it had escaped the general destruction. On its polished surface stood a blue china jar; beside it I noticed what looked like a ring of white wax.

"Garry," he murmured, "go down to the library and get me that candlestick, will you?"

"If you mean the one with the fingerprints on it," Lem said, "it's over at the station house."

"The other one will do quite as well. There is, I think, a pair."

I went downstairs and got the other candlestick; it held a tall, fresh candle. The Judge set the round brass base inside the ring that was on the table-top; as I expected, the fit was exact.

"The one with the fingerprints on it must have stood here for two or three hours," he said.

"Reckon so," Lem's eyes narrowed. "Did that Carey boy say he came upstairs?"

Miss Martin turned on him swiftly; this was the first she had heard of Jeff's connection with the affair.

"What has Mr. Carey to do with it?" she asked.

The Judge smiled, a bit wanly, I thought.

"I don't know, my dear," he replied, patting her shoulder. "Nothing, I hope."

Miss Martin, however, was not to be put off so easily.

"The Careys," she said, her eyes more like green jade than ever, "may have their faults, but they don't lie. Or murder!"

"I have always thought that myself," said the Judge. Suddenly he picked up the blue china jar, turned it over; three cigarette stumps rolled out upon the table. My uncle examined them carefully.

"A popular brand," he murmured.

"Kolker!" I said.

"When I talked with him," the Judge replied, "he smoked only cigars."

"That Carey boy eats cigarettes," Lem Purnell said. "Always got one in his mouth."

"That means nothing!" Miss Martin's coppery curls fairly danced in the sunlight. "My aunt must have had servants to look after her . . ."

The Judge shook his head.

**M**ISS Carey has been dead over a month, my dear," he murmured, placing the cigarette stumps in an envelope. "These are quite fresh."

Lem Purnell was growing impatient.

"Look here, Judge," he growled. "You were to talk to young Carey last night. Did he admit . . .?"

My uncle took Lem by the arm.

"Pardon us a moment, my dear," he said, drawing Lem into the hall.



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The girl turned to me, her eyes wide.

"What do you know about all this?" she snapped.

"Nothing . . . that I can tell you. It's Jeff's affair. You'll have to ask him."

"Very well! He invited me to take a drive with him this afternoon . . . a swim. Now I think I will!"

Then my uncle and Lem came in.

"There's nothing more we can do here," the Judge said.

"At least," Miss Martin grinned, "I should be glad that whoever did it confined their attentions to this one room. Suppose they had wrecked the whole house!"

"It happens, my dear," the Judge said gravely, "that you have hit upon the most significant feature of the affair; the fact that this room alone was searched. That tells us two things: First, that whoever searched it knew your aunt had something of value in here, in her possession. And, second, that she was too ill to move about. Obviously, had she been able to leave her room she could have hidden this object elsewhere. Yet only one room was searched."

"Who could have known those things?" I asked.

"As to her health, anyone, of course, who came to see her. She complained to me, the last time I was here, that a stroke had rendered her practically helpless.

"As to her having had anything of value in her room, that is another matter. If so, she did not confide the fact to me. I doubt if she saw many persons during her final illness. Owing to a very sharp tongue, Miss Carey was not popular. Besides myself there was Dr. Richardson, of course. And her minister, Dr. Hall. If she had any unusual callers shortly before her death, possibly the nurse who took care of her may be able to tell us."

"Worth asking her, anyway," Lem Purnell said.

"Yes. I will try to get hold of the woman." My uncle glanced at his watch. "Meet me at my office, Lem, at three o'clock. Meanwhile, suppose you see what sort of an alibi, if any, Elmer Owens has."

"Elmer Owens?"

"Yes, Lem." My uncle's voice was patient. "Somebody knew just where to find that hammer. A stranger would not have possessed that information."

"Right," Lem said. "And I've got Matt Gordy checking up them footprints."

MISS MARTIN was very quiet during our short drive home. She spoke only once, and that was when I asked her if I might call her Sallie.

"I think it would be sweet," she said, but her voice sounded very mechanical to me. She brightened up, however, when she saw Jeff Carey waiting in a smart roadster outside the door.

The Judge, who had some business at the courthouse, came back to the office a little before three.

"That nurse, Miss Zell, will be here at any moment," he said. "As soon as Lem arrives, bring them both in."

"Right!" I told him.

Thinking of Miss Martin and Jeff down at the beach had left me a bit depressed. The Judge, noticing it, gave me one of his quizzical smiles.

"Of course, Son," he said, "all this

makes Jefferson quite a hero in Miss Martin's eyes."

"A hero? Why?" I didn't get that.

"Naturally. A handsome young man. Perhaps falsely accused. Also, as it happens, a Carey. You can see, of course, that her family pride is aroused. As it is, you might exercise your well-known charms on Miss Zell."

"Trained nurses," I grumbled, "aren't my specialty."

"Really?" My uncle laughed. "Well . . . this one is not trained. Merely a competent woman who gave Miss Carey massages, lifted her in and out of bed. Don't worry about Miss Martin." He went into his office, chuckling.

Miss Zell came along a few moments later; a stocky blonde, not bad-looking, although I have never cared for pale blue eyes. Miss Martin's were like green fire. I thought the nurse rather small to be heaving old ladies in and out of bed. Then Lem Purnell came clumping up the stairs.

My uncle was very gracious, as always.

He frowned at my cigarettes, suggested that perhaps somebody else might like one, but Miss Zell said she didn't smoke, so I accepted the rebuke and ground the thing out in an ash tray.

"You'll need both hands, in any case, Garry," he murmured, "to take notes. It was good of you to come, Miss Zell. I was afraid you might have been called out of town."

"I'm hoping Dr. Richardson will need me on another case," the woman said. "My home is in Wilmington."

"Just so. Now, Miss Zell, I am going to ask you some very peculiar questions. I hope you can answer them. First, did your recent patient, Miss Carey, have anything of value in her room?"

"Anything of value?" The nurse looked up. "I'm afraid I don't quite understand you. There was the furniture . . ."

"No . . . no! I mean something else. Something much smaller. A paper, perhaps. Or a piece of jewelry."

"Not to my knowledge," the nurse said.

"Possibly even a book?"

"The only book I ever saw her read was the Bible."

"H-m." The Judge stared for a moment out of the window, his eyes half closed. "Now, Miss Zell, another question: Who came to see your patient during the week before her

death? I do not mean myself, or the doctor, or the minister. Someone else. You would know, of course."

"Oh, yes. I was with her constantly. Two old ladies called one morning. I don't remember their names. And her nephew, Mr. Carey, was there a few days before she died."

"Thought so," Lem Purnell muttered. "Anybody else?"

"A man who said he was an antique dealer . . ."

"Yes." My uncle, who is a veteran poker player, maintained an impassive face. "What did Miss Carey have to say to her nephew? Were they friendly?"

"I don't know." Miss Zell shook her head. "When he came, she asked me to leave the room."

"Then you heard nothing?"

"Nothing in words. I could hear their voices, rather loud, where I was sitting. On a bench in the hall."

The Judge nodded; I thought he seemed disappointed.

"Were they quarelling?" he asked.

"I couldn't say. They seemed to be having an argument."

"And this antique dealer?"

"He said Miss Carey had sent for him. That time, too, she asked me to leave the room. I supposed they had some private business to discuss."

"And you have no idea what it was?"

"Well," Miss Zell said, "when he left, the man asked if he might look at the chairs in the dining-room."

"Ah!" My uncle's glasses dropped to the desk with a snap. "Miss Carey told me someone wanted to buy those chairs. Chippendale, very old. In fact, she gave me Kolker's name . . . that's how I happened to send for him after her death. Now, Miss Zell, can you think of anyone else who came to Miss Carey's room around that time?"

"Yes," the nurse replied. "A man named Elmer Owens. He did odd jobs about the place. Miss Carey had him up there in her room just a few days before she died, putting in the screens."

"He knew she was helpless, I suppose?"

"I suppose so. Once she got him to lift her to her chair."

"I see." The Judge fiddled with his notes. "Was the antique dealer you speak of this man who was killed? Kolker?"

Miss Zell shook her head.

"I haven't seen the body. But I think Kolker was the name he gave."

My uncle nodded, then got up.

"Thank you, Miss Zell," he said. "That is all, I believe. If anything else occurs to me I will let you know."

When the woman had gone Lem spoke.

"LOOKS like we're wasting time, Judge," he drawled. "Those footprints in front of the closet are Carey's; I went to his boarding house, got hold of a pair of his shoes. They don't know what time he came in night before last. Reckon the old lady must have told him, when he saw her, that she had something of value in her room. The way I figure it, he met this bird Kolker at the house, had a row with him, bumped him off . . . with the hammer he'd been using to smash up the bedroom. The candlestick with the prints on it proves he was up there, stayed some time. Two or three hours at least, the way the



"Never mind the rug—What do you want for the rope?"



candle burned down. Reckon he didn't find what he was after, went down to the library, looked through those books . . . until the candle burnt out. Say he goes home, gets to thinking later maybe the bartender heard him make that appointment with Kolker. Slips back to the house the next day, hides the body in the closet. Not knowing Miss Martin had come to town, he'd figure it might stay there a year without being discovered. Cleans up the blood where Kolker was killed, not realizing he'd stepped in a spot of it. Then there's his prints on the closet door."

The Judge shook his head. "By the way, did Elmer Owens have an alibi?"

"Only up to ten o'clock. After that he swears he was in bed asleep."

"H-m. Rather inconclusive, unless we can disprove it. Better not do anything about young Carey for the present, Lem."

**S**ALLIE MARTIN was waiting for us when we got back to the house at dinner time. There was a tense expression about her eyes that warned me of danger.

"Have a nice afternoon?" the Judge asked.

"Of course not!" The girl shook her head defiantly. "Mr. Carey has told me of your absurd suspicions! I never heard of anything so idiotic!"

"But why, my dear?"

"If for no other reason, because of that man I saw yesterday morning . . . at the house!"

"The merest glimpse. In a room almost totally dark. Are you sure it wasn't your cousin you saw?"

"Nonsense! Mr. Carey has a nice, sensible face . . . this one was all . . . twisted . . ."

"In the mirror . . ."

"Of course. But . . ." The girl seemed about to say something more, then thought better of it.

When my uncle left the room Miss Martin laid her hand on my arm. She had a way of changing her moods that was positively bewildering.

"You don't think he's guilty, do you, Garry?" she whispered.

"Absolutely not!" I replied.

As a matter of fact in spite of the evidence, I really didn't. Somehow I couldn't picture Jeff Carey as a cold-blooded murderer. Of course, he has a rotten temper, and, given sufficient provocation, might even crack somebody with a hammer, but as for sneaking back and hiding the body in a closet . . . that was, in my opinion, definitely out, and I didn't hesitate to say so.

Miss Martin's smile became almost beatific.

"I knew I could count on you," she said. "Will you take me out there, to the house, after dinner?"

"Anywhere, Sallie darling!" I told her. "Any time! To the end of the world."

"Sandy Point will be far enough, for the present," she said. "I want to look at that mirror."

"Right," I agreed, wondering what she would do if I kissed her.

**I**T was almost dark when we got to Sandy Point. I'd taken the key that Jeff Carey left on the study desk the evening before, without telling the Judge where we were going.

I had looked forward to this opportunity of being alone with Sallie Martin, but as we went inside the

house my agreeable anticipations somehow vanished. The place was as gloomy as a tomb. We turned from the hall into the library, talking very loud, and Sallie held the electric-flash while I tried to light the oil lamp on the table . . . only to discover that the bowl of it was empty.

"Out of gas!" I told her. "We'll have to go upstairs and get that candle."

We climbed the creaky old steps hand in hand, our shoulders touching. The walls, cold and dank, seemed to lean over as though ready to fall and smother us. When I at last got my fingers on that candlestick they were shaking.

It was the fresh candle I had brought up that morning from the library, and at first its light was very faint. As soon as we got it burning properly, however, things began to look more cheerful. But I still could not shake off the idea that there were invisible eyes glaring at us from every dark corner.

Sallie stood for a moment gazing about the upper hall. It was fairly large, with a tall clock at the end of it, a bench at the side, and a charming, old-fashioned writing desk not far from Miss Carey's door.

"We ought to search that," she whispered. "It may have a secret drawer."

"By daylight, if you don't mind," I said, leading the way down to the lower floor. "I can think of lots of places I'd rather take you, this evening, than this dump . . ."

"You shouldn't refer to my ancestral mansion as a 'dump,' darling," Sallie said, as we went into the library.

"Well?" I asked. "What next?"

Sallie put the candlestick on the table. "I want you to stand over there, Garry, in front of the closet door."

"Great Scott!" I said. "Have I got to impersonate the corpse?"

"Oh, no! You're much too alive for that. Run along, now. I'll stand here in the hall."

I placed myself against the closet door.

"I'm just where I was yesterday morning," she said. "How about you?"

"As you asked, I'm right in front of the closet. Can't you see me?"

"Only your wishbone! Stoop down!" I did so, with an effort.

"How's that?"

"Lower still!"

Again I bent, my knee joints creaking.

"Once more, angell!" the girl cried. "You're almost in focus."

I slid a couple of inches nearer the floor, painfully.

"Fine!" I heard her exclaim. "Hold it! I can see you perfectly now. And there's nothing whatever the matter with your face!" She ran into the room, came up to me smiling.

"Hold it?" I growled. "What do you think I am, a contortionist? Don't you know that to stand like this with your knees bent is one of the hardest things in the world to do? This hurts!"

"Nice Fido!" She snapped her fingers. "You can get up, now. Allez-oop!"

I straightened my aching legs.

"And what is this supposed to prove?" I asked.

"That the man I saw did have a twisted face!" she said triumphantly.

As she spoke we heard a sound from the hall that froze the marrow

in our bones! In mine, at least. Soft, stealthy footsteps, creeping up on us! The murderer, no doubt, on watch to see what evidence we might have discovered against him. And I had not had sense enough to bring a pistol, or lock the front door!"

Sallie, with a frightened cry, fell against my shoulder. I put my arm around her, snatched up a bronze ornament.

**A** COOL, incisive voice came from the doorway . . . a voice in which I detected a ripple of amusement.

"Ah," it said. "Two amateur Sherlock Holmeses, wasting a perfectly good June evening indoors."

At his first words—it was my uncle, of course—Sallie pushed away my arm; her eyes were like large, green gooseberries.

"It hasn't been wasted at all!" she declared hotly.

The Judge, who was watching the tableau, smiled. "All the better," he said. "Congratulations!"

"How did you know where we were?" I asked.

"From the fact that you had taken the key." My uncle seemed amused. "Having planned to come out here myself, I naturally looked for it."

"The mirror is all right," Sallie said, "if that's what brought you. Which is why I say the evening hasn't been wasted."

My uncle nodded.

"The value of evidence, my dear," he announced oracularly, "lies not so much in the observed fact as in the interpretation placed upon it. I have just watched your little demonstration from the hall. Would you mind standing in front of that closet for a moment?"

"Me?" Sallie asked.

"Why not? Poor Garry's legs are already tired."

Miss Martin set her back against the closet door. She was still somewhat embarrassed.

"Stoop a little, please," came my uncle's voice from the hall. "Ah . . . yes . . . splendid! That will do." He took the candle and went over to the mirror.

**S**ALLY, mystified, as I was, stood beside him. I do not know what caused her to glance toward the windows at the rear of the room. Suddenly her arm shot out; she gave a shriek of dismay.

"Look!" she cried. "There!"

My uncle turned swiftly. The sudden movement toppled the tall candle from its stick. As it fell I caught a glimpse of a pale, set face, glaring at us through one of the porch windows. A vicious, determined face, partly hidden by a small cap. Little more than the eyes were visible, and those for only a moment.

I had no desire to pose as a hero, but those eyes somehow challenged me. I did not recognize them, and yet I felt that I had seen them before. I sprang across the room, almost upsetting my uncle.

I pushed open the French window, ran out on the porch. Fifty feet away a figure was dodging through the shrubbery. I followed, the branches whipping my face. As I forced a passage between two overgrown bushes, a red flame cut the darkness and a bullet clipped the leaves at my elbow. I heard Sallie calling from the porch:

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"Garry! Don't be a fool! Come back!"

I kept on, but by the time I reached the barn the figure ahead had disappeared among the shadows in the direction of the Elk Run road. The Judge joined me, took hold of my shoulder.

"Are you all right, Son?" he asked.

"All right?" I was furious. "If I'd only been a little quicker I might have got a glimpse of him."

"Come along, Garry... it's time we went back to town."

If the Judge was silent, on our way home, he acted quickly enough once we got there. His first move was to telephone Miss Zell.

"I've left word for her to come here," he explained, as he hung up the phone. "She's at the movies, but is expected back shortly. There are some questions about Miss Carey's last illness I must ask her."

We sat in the library, waiting, not saying much. I asked Sallie if she would like to go into the garden but she shook her head. I guess my uncle is right when he says I know very little about women; from the sound of Miss Martin's voice, when I was shot at, I thought she was really excited, but now she was about as emotional as a piece of dry ice. Thinking about Jeff Carey, I decided, wondering where he had kept himself all the evening. Could it have been his face we saw outside the window at Sandy Point?

Finally the doorbell jangled, and Mrs. Cropper was ushering in Miss Zell.

"I am obliged to you for coming," my uncle said, "but there are one or two points I hoped you might clear up. About Miss Carey's illness. This is her niece, Miss Martin."

THE woman sat down, primly; her manner, I thought, was slightly hostile. Perhaps she expected her work as a nurse to be criticized.

"You of course do not know it, Miss Zell," he said, "but Miss Carey's bedroom at Sandy Point was searched the other night. Wrecked. By persons unknown. They apparently thought she had something of value concealed there... something she could not have taken away, removed. Now, what I wish to find out is this... was it physically impossible for your patient to leave her room?"

"Why, yes." The nurse seemed bewildered by the question. "She'd had a stroke and couldn't walk."

"But might she not have moved about by holding on to pieces of furniture?"

"The doctor wouldn't let her get out of bed, except when I lifted her out. That's why I was there... one reason at least. To watch her. He was afraid she'd fall."

"But you couldn't have watched her constantly."

"I slept in her room. With the door locked, at night."

"But in the daytime. You must have left her occasionally."

"Not often, that last week or two. When I did, the colored maid, Edna, sat outside the door. And once or twice, on the maid's day off, that man, Elmer..."

"I see." The Judge rubbed his hands. "Now we are getting somewhere. Did this maid smoke? Cigarettes?"

"Yes. But not around Miss Carey;

the old lady couldn't stand the smell of tobacco."

"But if she had sent the maid away on some errand, the girl would no doubt have been glad to go, if only to enjoy a smoke."

"I suppose so," Miss Zell admitted grudgingly. "I was never gone very long."

"But long enough, I am sure, for Miss Carey to have gotten rid of the maid, or of Elmer, and made her way into the hall?"

"They weren't supposed to leave her," the nurse said.

"The point is, might she not have left her room long enough to hide this valuable object somewhere else? There is a desk, for instance, just outside her bedroom door. It may have a secret compartment. Miss Martin... my



"They've been laying their eggs in the creek since Tuesday — they're on strike."

uncle turned to Sallie, addressed her in his quick, firm voice... "what Miss Zell has told us convinces me that your aunt might very well have hidden this valuable object elsewhere than in her room. We should search that desk at once! Tomorrow morning, if that is agreeable to you. Before these rascals have a chance to get ahead of us."

"Why, of course," Sallie said blankly. "In fact, I had already suggested it to Mr. Tyson."

"We'll consider it settled, then." My uncle turned to the nurse. "Thank you, Miss Zell; you've been very helpful, and I appreciate it. May I escort you to the door?"

We heard the rattle of a car as the nurse drove off, and then the Judge came back into the room.

"Tired, my dear?" he asked, turning to Sallie.

"No," she replied. "Why?"

"Sorry." The Judge made an apologetic gesture. "I thought I heard you say something of the sort over the telephone, right after dinner."

So Jeff had called, while I was getting out the car, no doubt, and she had refused a date with him. She gave both my uncle and myself a frosty look.

"Was there anything you wanted me to do?" she asked.

"Yes," the Judge said. "Instead of making that search at Sandy Point tomorrow morning I think we should go there tonight."

"Tonight?" Miss Martin asked.

"Now. At once!"

"And maybe get shot," I said, grinning.

"That is possible, of course. But the presence about the house of the person who did the shooting makes me think that we should not delay. As a precaution, however, I shall take Lem

Purnell along. Pardon me a moment while I telephone."

At the police station my uncle left us; we could see him through the window, talking to Lem and Benny Hartwig. I turned to Sallie.

"Hello, Adorable!" I whispered. "Love me?"

She leaned forward so suddenly that her mouth almost touched mine.

"This is so sudden, darling!" she said, and burst out laughing.

I should have kissed her, of course, but these women with a sense of humor are disturbing; I don't like to be laughed at. While I was thinking it over, the Judge and Lem Purnell came out to the car.

"Step on it!" Lem said, taking the seat beside me. "And when you pass the Elk Run bridge, dim your lights!"

THAT set me to thinking. Whoever had been watching us at the house earlier in the evening had a car on the old Elk Run road, on which Elmer Owens had his shack. A dirt lane from the edge of town, seldom used. Owens could easily have learned, while working about the house, of this valuable object in Miss Carey's possession. Surprised by Kolker while searching for it, he had probably killed the antique dealer. If so, I could understand my uncle's wish to act quickly, before he had an opportunity to go through that desk.

As we neared the entrance to the Carey place Lem spoke.

"Don't drive in, fellal!" he muttered. "Stop under that bunch of cedars."

"And put out your lights," my uncle added softly.

The shadow under the cedar trees was like a pool of ink. The Judge, cautioning us all to keep quiet, led the way across the ragged lawn. Instead of approaching the door, however, he edged toward a small summer house some fifty feet away. There were benches around the inside of it, and he motioned to us to sit down.

"What's the big idea?" I whispered to Sallie.

"Shut up!" she replied, pressing my hand.

There was nothing to do then but keep still. We sat there like mummies for what seemed hours. Of course, I knew by this time that we had not come to search a desk; the Judge had something more important on foot. A very brilliant man, even if he hadn't seen fit to take me into his confidence. Perhaps he was afraid that what he

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had planned might not work out. We could hear nothing but the steady piping of tree frogs and, occasionally, a dog barking, distantly.

At last, when I thought it must be getting close to breakfast time, I heard something else. A car, moving softly in the old Elk Run road. My uncle's shoulders hunched forward. I glanced over them. After a long silence we heard faint footsteps, saw a furtive figure emerge from the shadows moving cautiously toward the house. For a moment we glimpsed a dim silhouette against the white front of the door; almost at once the figure vanished inside.

"Wait five minutes, Lem," my uncle said softly. "Here is the key, in case the door has been locked." He turned to the rest of us. "Keep very quiet, please, and avoid unnecessary risks; Mr. Purnell is about to make an arrest."

To me those few minutes seemed longer than all our previous wait. At last Lem got up, moved silently across the lawn. We followed him, in spite of his whispered cautions to keep back.

As he opened the front door I saw that the hall was dark, but a yellow radiance at the head of the stairs indicated the presence of someone on the floor above.

Lem started up the staircase. I followed him, more from curiosity than courage, I guess. At once the light above went out; we heard quick footsteps, and in the circle of Lem's flash I saw a face peering down at us from the darkness . . . a white face, with pale, hard eyes and a vicious, snarling mouth. Below gleamed the barrel of a revolver.

I had my own flashlight in my hand and automatically I threw it, over Lem's shoulder. A chance, of course, but there seemed nothing else to do. The pistol roared, and a shower of plaster fell from the ceiling. Lem, although he had a gun in his hand, did not shoot . . . for a reason which I only discovered later.

All this took but a moment. In the next, a hard, compact body came hurtling down the stairs as though fired from a gun. It caught Lem full in the face; he toppled backward, and the three of us crashed in a whirling mass to the hall below.

In the almost total darkness I managed to struggle free. Lem's flashlight, rolling on the floor, had not gone out. I picked it up with my left hand; there was something wrong with my right. The hallway seemed full of tumbling bodies.

I have said that Lem Purnell is a heavyweight; he needed every ounce of it to subdue that raging hellcat . . . biting, gouging, clawing like a steel-springed tigress. I suppose giving people massages does develop the muscles; Miss Zell certainly had plenty of them; if Lem had been a smaller man she might have gotten away. I couldn't have helped any. And he wouldn't shoot at a woman.

"Reckon you saved my life, fellal!" he panted, when the nurse had finally been handcuffed. "Throwin' that flash!"

"Nonsensel!" I told him. "Never saw a female yet could hit even a skyscraper."

Sallie, from the doorway, was staring at me, round-eyed.

"What's the matter with your arm?" she asked.

"Broken," I grinned. "Guess Lem fell on it."

Her comment seemed characteristic.

"Come along, stupid!" she snapped, taking my good arm. "You've got to see a doctor immediately!"

The Judge smiled; I thought he was about to spring one of his salty proverbs, but if so Sallie stopped him.

"You might have known it wasn't my cousin Jeff," she said severely. "The Careys have always been gentlemen!"

"What . . . no ladies?" my uncle asked, laughing. "How very unfortunate."

The Judge is a modest man and does not like to talk about himself. But when Doc Richardson had set my arm and we were once more back in the library, Sallie insisted on it.

"You can't leave us hanging like this," she declared. "All we know is that Miss Zell was searching the desk. Did she murder Kolker . . . and if so, why? What on earth was she looking for?"

"I haven't the least idea," my uncle replied, with his most bashful smile. "I merely set a trap for the woman. You see, I suspected her from the first."

"Why?" I asked, rather annoyed that he had not seen fit to tell me about it.

"For one thing, because of the car which was parked behind the barn on the night Kolker was killed. The cigarette stumps stained with lipstick found in the road."

"You said they meant only a petting party," I objected.

TRUE. But that was before I had talked to the nurse. You may remember, Son, that I suggested you offer her a cigarette. She said she did not smoke, but I distinctly saw nicotine stains on her fingers. A harmless enough lie, perhaps," the Judge went on, with his mild, shrewd smile, "yet my experience on the bench has taught me that witnesses who lie in small matters will do so in large ones. Therefore, when she denied having overheard the conversations between Miss Carey and Jeff and Kolker . . . I did not believe her. As I picture it, the old lady sent for Kolker to value this mysterious object which later caused his death, and Miss Zell, listening outside the door, heard him make that valuation! Incidentally, the cigarette butts we found in the jar in Miss Carey's bedroom, left there, no doubt, while making the search, also had lipstick on them."

"But what about the man I saw?" Sallie asked. "With a crooked face? I found nothing wrong with the mirror."

"That, my dear, was because you did not look far enough. For one thing, you did not notice that the mirror is beveled. When I asked you to stand in front of the closet door I could see your face perfectly in it. But when you stooped an inch or two lower, your mouth and chin, reflected in the bevel, were distorted. That at once suggested to me a woman, shorter than you are. Someone, in fact, about Miss Zell's height. I imagine she was at the house, searching Miss Carey's bedroom, when Kolker arrived. Seeing the light and thinking Jeff was there, he no doubt called out his name. Miss Zell, carrying the hammer she had taken from the toolbox to wreck Miss

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Carey's room, went down, let Kolker in, killed him . . ."

"But why?" I asked. "Why murder the man?"

"Don't you see? He was the only person, outside of herself, who knew about this mysterious object she was after. Unless she was willing to share with him, he would probably have gone to the police. Kolker, no doubt, had already been murdered when Jeff Carey arrived. Jefferson sat there for half an hour, not realizing his danger, with the woman crouched near by. As for the wax on the table upstairs, Miss Zell, I think, had used the candle earlier . . . brought it downstairs when Kolker arrived, set it on the mantel. Jeff was not certain whether the one he lit had been burned before or not. If Kolker was killed in the front hall, as I suspect, Jefferson probably stepped in a spot of blood without knowing it, before the woman had a chance to clean the bloodstains up. He made the fingerprints on the closet door while groping about for the light switch."

"But what were the woman and Kolker after?" I said. "Now that he's dead, she is the only one who knows."

"I am afraid that is true," my uncle agreed. "Unless she tells us, I doubt if we shall ever find out."

In that, however, the Judge was wrong. There was a ring at the door-bell, and a moment later Lem Purnell came in.

"Here's something I found in Miss Zell's purse," he said, extending a sheet of yellowed paper.

MY uncle unfolded the sheet of faded foolscap. I saw that it was the missing page from Miss Carey's book catalog. Near its top, almost obliterated by a heavy, pen-drawn line, were the words: "Tamerlane Manuscript."

"Tamerlane?" my uncle said, puzzled. "Wasn't that the name of a Mongol emperor?"

"It was," I said, "and also of a book . . . by Edgar Allan Poe. I read only the other day that the two copies in existence are worth twelve thousand dollars each! An original manuscript in Poe's handwriting ought to bring a lot more! Look here!" I held out the yellowed page, pointed to a penciled note on its margin. "'Around \$30,000 . . . H. K.' Kolker's own estimate, signed with his initials! This paper was undoubtedly taken from his body by Miss Zell!"

The Judge nodded.

"I remember," he said, "that Miss Carey once told me her father and Mr. Poe had been great friends. But if the old lady had this manuscript in her possession, what do you suppose she did with it?"

Sallie smiled. Then she said something which proved to me, at least, that a woman can be both beautiful and intelligent.

"If my aunt crossed the manuscript off the list of books intended for Jeff," she said, "I assume she wanted it to come to me. And in that case I can't imagine her hiding the thing where no one could find it."

"What would you have done with the manuscript," the Judge asked Sallie, "in your aunt's place? In some respects you are astonishingly like her."

"I think," Sallie said, "that I would have given it to the executor of my estate."

"But . . .!" My uncle's shoulders

stiffened at that. "Now that you speak of it," he admitted sheepishly, "Miss Carey did give me something just before her death that I was to hand to you in person. In the excitement over this murder I completely forgot it." He went into his study, returned with a large book. "Her Bible. She expressed the hope that you would read it from cover to cover."

Sallie took the Bible in her hands. It was enclosed in a jacket of heavy silk.

"From cover to cover!" the girl whispered. Her slim fingers pressed the heavy silk, then she turned to me. "Garry . . . may I have your knife?"

Very carefully she cut the stitches, drew out a thin, flat package.

"Reckon the old lady expected her to wear them covers clean through!" I heard Lem chuckle.

Sallie unfolded the package. Dozens of yellowing sheets filled with fine, angular handwriting. On the first page, near the title, was an inscription:

"To My Esteemed And Most Generous Friend, Jefferson Todd Carey, With the Compliments of the Author, Edgar A. Poe."

The picture, now was clear. Miss Carey, sending for Kolker, learning that she held a small fortune in her hands! Suspicious of everyone about her, hiding the manuscript beneath the dust cover of her Bible! Sending the Bible to her niece, with the hope that she would read it "from cover to cover" and so learn the meaning of her cryptic message.

"Jefferson Todd Carey was your great-grandfather, my dear," the Judge said.

"And Jeff's as well," Sallie replied softly. "Whatever it brings I shall share with him."



A marvelous woman, spirited, generous, but the suggestion disturbed me.

"But not anything else, angel," I whispered. "Because . . . well . . . you see . . ."

She faced me squarely. I had never seen her cheeks so pink, her eyes so darkly green.

"If it isn't too late, Garry darling," she whispered back, "and your arm doesn't hurt too much, I think we could discuss that better . . . in the garden."

My heart gave a jump. There was a moon, too. Behind us I heard my uncle chuckling.

"The donkey," he murmured, to no one in particular, "is now safely headed for Seville!"

I paid no attention to him, because I was thinking about what I meant to say to Sallie. And, anyway, no one can understand the Judge's obscure jokes.

THE END.



# Livestock Improvement In Sweden

*Government and co-operatives work together for improvement based on performance records.*

by J. A. STEELE

SWEDEN has one thing in common with Canada in her livestock program; most of her improved livestock is from the same sources as Canada's. In cattle the Swedish Red and White Cattle includes the Ayrshire, and the Lowland are apparently of the same origin as our Holstein-Friesians. Polled animals of red colors and black color may owe something to the improved polled breeds of Britain. In sheep, the Cheviot, Leicester, Shropshire and Oxford Down are used in addition to the native sheep, and in pigs we find them using the Large White (Yorkshire) pig to a large extent. Sweden has large forests and many farmers gain part of their income from forest products. In these respects there are some features of Swedish farming which resemble eastern Canadian agriculture.

All European agriculture has to be based very much on economy of production. Fifty or 60 years ago 80 per cent of the total population of Sweden was engaged in agriculture, but today the number in agriculture has shrunk to less than one-third of the population. Formerly most of the products were consumed on the farms where produced, but now most are marketed. The change was marked by much dissatisfaction with the persons and firms purchasing the farm produce and in 1930 an agricultural crisis arose which resulted in the co-operative movement receiving a very strong impetus.

One of the strongest co-operative selling organizations is the Swedish Farmers' Dairy Association which has 250,000 members and a turnover of 800,000,000 kronor per year and is Sweden's leading industry. It handles 95 per cent of the milk delivered to dairies and has modernized plants, replacing 360 dairies of the old type in the Stockholm area by 60 larger, modern plants. The meat marketing association has divided the country into 38 districts with one society in each. Old butchers have been replaced by modern abattoirs and the society's trucks pick up the livestock. Approximately 70 per cent of animals for slaughter are handled by these co-operatives. There are 275,000 members of meat marketing associations.

The Swedish Farmers' Purchasing and Selling Association, which handles

sales of grain, potatoes, and the buying of farm supplies, has 115,000 members. It has built many grain elevators and storage houses for potatoes. Other organizations along these lines include forest owners' societies, egg marketing, and credit and banking societies. Fourteen such organizations are part of the co-operative movement and the central organization is the Federation of Swedish Farmers' Associations.

In addition, Sweden has a Farmers' Trade Union started with the idea of paralleling the labor unions. It has adopted some of the practices of labor unions and has negotiated with the government on price control of agricultural products and the machinery for fixing prices. It has arranged standard rates of pay for farmers working with lumbering concerns. About 175,000 of Sweden's 375,000 farmers are now members of this organization.

WITH this background it can be readily understood why the livestock program is one closely allied to these organizations and on a very practical basis, with economical production the main aim, and frills at a minimum. The Department of Agriculture works in sympathy and in close co-operation with the Federation and its various organizations. Most of its policies are operated through the various associations.

All livestock recording is done under the supervision and authority of the Department of Agriculture. In most cases authority has been given to the breed association to keep the records. In the case of pigs, the central record is kept by the Department of Agriculture.

In keeping with the policy of utility and performance, breed distinctions appear to be ignored to a large extent in favor of a high measure of performance. The Red and White Cattle Society appears to accept cattle of these colors provided they have the requisite type and production. The Lowland cattle appears to include most Black and White cattle, and polled cattle are divided into two sections—those predominantly Red, and those Black, White, or of variegated colors. Cows to register must be sired by a registered bull and their dam sired by a registered bull.

As most cattle are in control, or cow



[Photo by Thos. Mason, Oatfield.]

A typical farmyard scene in Manitoba's interlake country.

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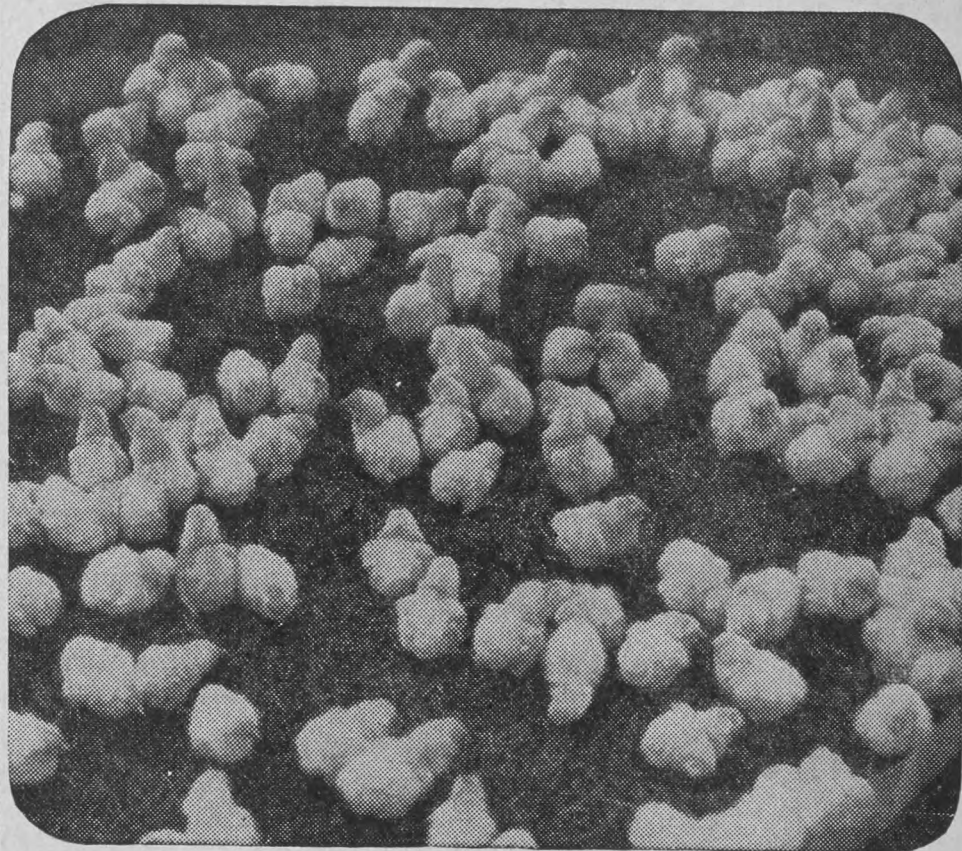
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testing associations operated on a yearly basis, identification of such a dam is effected by an excerpt from the control register, showing identification, performance records and descent. Cows must all have production records in accordance with size of their heartgirth. No attention is given to age. The qualification requirements are based on either a first-year record, or for the average for three calendar or control years. Apparently the three-year average is favored. These must be three consecutive years which gives no time for long, dry periods in between lactations.

The same principle is followed with pigs. A sow must produce a litter weighing 66 pounds at three weeks of age in the case of a first litter, or an average of 77 pounds weight for the first three litters at three weeks, provided the three litters are all within 16 months.

In sheep, all animals must reach the weight requirement for age which differs with each breed, before they may be passed as eligible for registration.

**I**NDIVIDUAL animals are given distinctive identification marks consisting of a provincial letter and a farm number. When fully accepted for registration, Lowland cattle are branded on the croup with a crown, the trade mark of the association; Red and White cattle are branded on the left horn with the association brand; and pigs are tattooed in the ear with their registration number, when accepted. Thus, registered animals are all marked as such.

Animals are inspected in adult form before they are registered. Usually there are two inspectors, one for the breed association and one for the local co-operative association. In some cases a government official also is on the committee. Inspection is made of bulls over eighteen months of age, cows with one to three yearly records, sheep over one year and sheared and grown out again, and sows with one to three litters. Standards are drawn up from a utility standpoint and animals are carefully scored and rated. Measurements of heartgirth, length, and so on, are taken and form part of the committee report. In some cases the scoring is done at exhibitions and animals are put in first prize, second prize or third prize classes and the rating is used for the report of the selection committee. In other breeds ratings are 0, 1, 2, 3, 4, the four being the highest and the nought used for an animal turned down.

In general it may be noted that both the government and the co-operatives are much concerned that the farmer is using the best class of livestock and using it to the best advantage. Sires used must be up to high standards of performance and type and breeding. Most of the Swedish livestock regulations have been revised within the last few years and the results of the cattle policy of grouping breeds and depending on performance records and type inspection to develop a new, improved animal, will be watched with interest. In sheep and swine as well, there are many interesting points on which to compare progress with our own.



Many women are subject to weak, aching back. Often the kidneys are to blame, for your kidneys, along with the liver, must filter out impurities from the bloodstream.

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# The Country Boy and Girl

## The Good Turn

by MARY E. GRANNAN

ALL night long the wind had howled and wailed outside the windows of Joanne MacMillan's house. In the morning, when she woke up, the street and the pathway in front of the house was littered with twigs and branches and scraps of paper.

"Mummy," Joanne cried. "Just look at the street. It's very untidy, isn't it?"

Mother laughed. "It is indeed," she said. "Are you going to do anything about it, Joanne?"

"Yes," said Joanne. "First of all, I'm going to give Mr. Wind a piece of my mind for dropping all these twigs and things in front of our place, and second, I'm going to pick them all up and put them in the garbage can at the corner. I'm going to do that because I'm a good citizen. Our teacher told us that if we were going to be good citizens we should help to keep our town looking its very best."

"Your teacher is right," mother answered. "Be sure you put your old mittens or gloves on when you go out, so you'll not scratch your hands with the broken twigs."

"Yes, Mum," said Joanne. She began with the front porch, when she went out-of-doors. There were many twigs on it too. By the time she had reached the hedge that ran around the lawn, she was tired, and she stopped and sighed, and said, "Oh dear! Mr. Wind, I could spank you for making all this work for me."

"Look at what he did to me . . . did to me . . . did to me . . ." said a small voice from under the hedge.

Joanne's eyes widened in surprise. Who had spoken to her? She knelt down and looked under the hedge, and she found a grey pigeon with a broken wing. He'd been blown against a tree trunk in the storm, and had fallen to the ground. He managed to roll in under the hedge out of the wind, and now he needed help . . . needed it badly. He had found the right person to give him that help too. Joanne picked him up and carried him into the house.

"Mum," she called, "I found a little pigeon in the hedge and his wing is broken? Do you know how to fix broken pigeon wings?"

Mother knew. She went to the medicine cabinet and she got the things she needed. With Joanne's help, she put the broken wing in splints. The pigeon cooed his thanks. Joanne fed the pigeon, and took him out for the air every day until he was well again.

One morning at breakfast, her mother said, "Well, dear, I think Mr. Pigeon is ready to be on his way again. You can let him go today."

There were tears in Joanne's eyes as she took the pigeon to the porch that morning. He was sitting on her shoulder, and he saw the tears. "Don't cry. I'll come back every day to see you, and Joanne, if I can ever do anything for you, I'll be very glad to do it. You'll remember that, won't you?"

"Yes, Mr. Pigeon, I'll remember. Good-bye," said Joanne, as Mr. Pigeon flew away.

Joanne was so lonesome without her

"ARE you coming out to play?" asked Dick when he called on his friends Bob and Molly Saturday afternoon, "the snow is just right for making a snowman."

"We'll be with you in a minute," called Bob, "I just have to let the cows out of the barn." That was soon done and the business of making a snowman began in earnest. The day was warm and the snow stuck together in fine fashion.

"We'll make this snowman as tall as Daddy" and so they did; they even had to bring a ladder to stand on to lift up the big, round ball they had made for his head. Pieces of coal were used for his eyes, nose and mouth and Dick found an old corn cob pipe for his mouth. They called to their mother to come and see their snowman and mother brought with her a large piece of suet for the snowman to hold in his arms for the birds to eat.

"The snow is deep and the birds will be glad to find some food," said mother. And so they were. A little later when the children looked out at their snowman they saw birds flying up to him in a friendly manner to get the scraps of suet he held in his arms. There were chickadees, blue jays, a nuthatch and a downy woodpecker. At night, although the children didn't know it, a snowy owl came and looked at their snowman but he was too suspicious to come near and quietly flew away.



Ann Lankey

bird friend that to help her forget her sorrow her father made her a big and beautiful kite. She was very happy with the kite, and on days the wind was blowing, she flew the kite in the park. Then one day, when a little dog startled her by barking at her heels, she let go the cord. The kite went flying off alone. Joanne cried out in dismay, "Oh my lovely kite! My lovely kite! I've lost it. I'll never be able to get it back."

And then she thought of what Mr. Pigeon had said to her. "If I can ever do anything for you!" Joanne raced to the church steeple where Mr. Pigeon now lived. He saw her coming, and came to meet her.

"What's the matter? What's the trouble, little Joanne?" he asked.

"My kite!" sobbed Joanne. "My lovely kite. It got away from me. It's flying over the park all alone. Mr. Pigeon, do you think you could catch it for me?"

"Yes, I can," said Mr. Pigeon, and away he flew. He did catch the kite, and he brought it earthward to Joanne. As she took the cord from his bill, she said, "Oh thank you, Mr. Pigeon. You are very kind."

"You were kind to me, too," said the pigeon. "One good turn deserves another."

That's very true, isn't it?

## Are You Lopsided?

YOU may have the idea that you are pretty well balanced and that the right half of your body is a good match for the left. But take a sharp look at yourself.

Start with your feet. Usually the left foot is a bit larger than the right. You may not be able to detect the difference, but when trying on a new pair of shoes be sure you get into both of them to make sure the left one doesn't pinch.

Legs and arms vary in proportion to the exercise they get. Those used most are naturally the largest.

Look at your hands. Put the palms together so that the two middle fingers just touch and are of equal height. Most likely you will find the

forefinger on your right hand is considerably longer than that of the left. Also your left hand (if you are right-handed) will be narrower than your right. That is because you use the right hand more than the left.

Now stand perfectly erect against a wall, get the level of your shoulders taken, and at the same time have someone mark the length of your arms to the longest fingertip. How lopsided are you, really?

Various causes contribute to bringing your shoulders out of line. Students who habitually rest one arm on the desk tend to raise that shoulder higher than the other. Carrying heavy loads with the same arm will have the opposite effect. A constant check on your posture will do wonders towards keeping yourself in shape.

Your eyes will be an eye-opener too. One is almost sure to be wider awake than the other, and the vision of both eyes is never the same. Try reading large print from a distance with the right eye first, then with the left.

Perhaps the best match you have, after all, is your ears. They may stick out almost at right angles or lie flat against your head but examine them as you will, you will find very little difference.—Walter King.

## Have You A Good Memory?

YOU can't expect to remember much more than a trifle of all you see or hear. Yet it is important that you should learn to remember the useful things while you forget those that are useless. People with good memories are able to pick out what they know should be remembered and then they make it stick.

How about you? Can you forget silly gossip and remember important historical facts? Are you training yourself to remember what counts?

Try this self quiz to get your memory rating. Answer each question with a straightforward "yes" or "no."

1. Do you know the words of the first verses of at least six hymns?
2. Do you know the words of the chorus of at least six popular songs?
3. When you go shopping or out on

errands, can you remember up to six items without referring to a list?

4. You must have heard the fire department telephone number which you should ring if your house is on fire. Can you remember it?

5. Do you always remember to return borrowed articles without being asked for them?

6. Do you always remember to keep appointments?

7. Do you rate better than average in memory work exercises at school?

8. Is mislaying a letter, book, or article of clothing a very unusual thing with you?

9. Is it true that once you leave the house for school you never have to turn back to pick up forgotten articles?

10. Are you good at remembering names and faces?

11. Do you rarely ever forget to do things you intend to do, such as write a letter to a friend, or get a button sewn on your coat?

12. Do you easily forget unpleasant incidents?

13. Are you good at remembering addresses you will require again?

14. Can you remember the birthdays of at least six people outside of your own family (friends and relatives)?

15. Can you remember the last word uttered by the last person who spoke to you?

Now let's check on your score. Twelve or more "yes" answers indicates you have a reasonably good memory. Nine to eleven "yeses" shows better than average performance. Six to eight is weak, but if you start now training your mind to dwell on important things you will soon find a big improvement in your ability to remember what you want to. But if you really scored below six, it is just another unpleasant incident. Forget it.—Walter King.

## Game Of Word Buying

THIS game is played by two or more people. Each player makes a chart like this:

WORDS	Cost
BIT	1 Point
OF	_____
AC	_____
SB	_____
ID	_____
PA	_____
CL	_____
WU	_____
IR	_____
AD	_____

The object of this game is to add as few letters as possible before or after each pair of letters to make a word. Each letter added to make a word costs one point and each point should be entered in the cost column. If a player cannot think of a word to build on the letters given the cost is 15 points. Here are other rules which apply to this game:

1. No proper names or abbreviations may be used.
2. No letters may be placed between the two letters which are given.
3. The player with the lowest total cost wins the game. (The first one is worked as an example.)—A. T.



# THE *Country* GUIDE

with which is incorporated

THE NOR'-WEST FARMER and FARM and HOME  
Serving the farmers of Western Canada Since 1882

VOL. LXVIII WINNIPEG, MARCH, 1949 No. 3

## An Exaggeration Nailed

Our esteemed contemporary, The National Home Monthly, devotes the front half of its February show window to an article entitled, "Are you better off than you were in 1939?" The article surveys the economic history of four representative families since the beginning of the war; those of a Montreal factory employee, a Toronto office worker, a Manitoba grain grower, and a retired couple living in Vancouver. The point of the story is that in three of the four cases—those living in the cities—the families have no economic security; rising costs of living having wiped out any advance in wages earned.

Up to this point we have no comment to make. The rest of the story is a different matter. The authors have selected as a contrast a grain farmer whose 1939 income of \$2,500 jumped to \$20,000 in 1948 and who, owning one farm at the commencement of the war, now owns three! The writers of the article acknowledge that the farmer concerned is better than average, but their story leaves the impression, which many will accept as the truth, that while urban families have not shared in Canada's rising standard of living, every farmer is basking in an economic Eldorado.

The Guide strongly deprecates foolish talk of this kind and the consequences which flow from it. Everyone knows that a few fortunately placed farmers have steadily increased their earnings, and perhaps their capital, at a prodigious rate. It is equally true that cases abound in our cities of individuals who have done exceptionally well. These extreme cases prove nothing. Averages tell the tale, and official statistics permit of no such comparison as that which stands out in the article under review.

The Dominion Bureau of Statistics reports the total cash income from the sale of farm products in 1947, the last complete year for which records are available, as \$1,989,780,000. Using the 1941 census figures of 705,000 farms in Canada, the average farm income from the sale of products was \$2,822, an advance from \$855 per farm in 1939. Figures from the West, where farms are larger and costs greater, were naturally higher for both periods. The 1947 cash income from the sale of farm products was \$3,387 per farm unit. The total for western Canada was \$913,290,000, an advance of 146 per cent over 1939. The National Home Monthly's farmer did three times better than his neighbors!

This income of \$3,387 per farm must not be compared to the average wage or salary of the industrial worker, which the Bureau reports as \$1,901.64 for the same year. The farm income must meet the cost of running a farm business. It includes wages for hired help, seed, twine, maintenance, interest on working capital and a number of important items which make no demands on a wage earner's pay check. In addition, it should be noted that while the urban wage earner in August 1948 required \$1.55 to buy one dollar's worth of 1939 commodities, the farmer's costs in the same period had advanced from one dollar to \$1.70 as reported by the same authority.

When all these adjustments are made it will be seen that agriculture is not piling up new capital on the scale suggested by our neighbor publication. The farmer is now, in most cases, getting some return on his capital. It is a refreshing experience after the terrible decade preceding the war in which farm capital was destroyed at a rate never before experienced in Canada. If he is lucky enough to escape all the risks of crop and stock production, a farmer may be doing better than the urban wage earner. But no such absurd disparity exists as that described by our contemporary.

## The Changing Shape of Parity

Canadians who have favored the farm price parity approach to agricultural security have been watching with intense interest the developments in the United States during the last year.

As it was first adopted in that country it was a fairly simple proposition. It worked in this way. First the statistician took the average price farmers got for a given commodity during the years 1910 to 1914. Then to get the parity figure he multiplied the average price during the base period by the percentage of increase since 1910-14 on the price the farmer pays for the things he buys. In other words, at parity, a farmer should be able to buy as much now with his product as he did then.

For instance, the price of beef cattle during the base period was \$5.42 per 100 pounds. As of January 15, 1949, the prices of things which the American farmers buy are 248 per cent of what he had to pay in 1910-14. So the parity price of beef as at January 15 was 248 per cent of \$5.42 or \$13.44.

Up to January 1, the American government had parity price supports on 25 different farm commodities. After that date it was still committed to support the more important of them at 90 per cent of parity. But the 80th Congress became uneasy about the effects of this policy. On most of the important field crops, wheat, rye, cotton, corn and potatoes, the parity price was substantially higher than the market price. Parity prices were so attractive that they were encouraging acreage increases when the state of the open market would have counselled acreage reduction. Government loans were available at parity prices. On January 15 loans were outstanding on 343 million bushels of wheat. If the farmer chooses to surrender the crop rather than pay the loan, the government stands the loss. Meanwhile under the prevailing policy surpluses are accumulating, the international effect of which may be seen today in Canada's wheat export difficulties.

Foreseeing this development, Congress last year passed the Aiken Law, which goes into effect with the products of the 1950 crop. It aims to unfreeze the parity price from the 1910-14 base. It provides for parity prices as low as 60 per cent and as high as 90 per cent, depending on the surplus of that particular crop. The bigger the surplus the lower the support price. Parity will not, therefore, continue to stimulate undesirable surpluses.

The Aiken Law has another important provision. It provides for acreage allotment. Farmers have to vote on this feature of it. Farmers who approve the principle and accept regulation of acreage have the parity for the crop in question automatically increased 20 per cent. For those crops whose producers refuse acreage control the price support level falls to 50 per cent. Farmers will thus have a strong incentive to vote for controls. Business Week calls it "strong medicine" amounting to state controlled agriculture. Private enterprise has been assailed in its own temple. It is somewhat of a paradox that the Republican 80th Congress, worshipping private enterprise, should make provision for acreage control.

## Hasty Praise

The Guide considers that it should specifically disavow any responsibility for the article by its Ottawa correspondent in this issue, before the mail brings the inevitable reaction. Our unwillingness to go as far as Mr. Cross in appreciating the changing strength of the forces in the parliamentary conflict may be due to our misfortune in not being an eye-witness. We cannot enjoy the splendid spectacle of Gorgeous George riding unscathed through the Liberal host, the pale light of heaven glowing like an aura around his casque. Nor have we bathed in the warmth of his charm when his armor is temporarily laid aside. Perhaps if we shared these daily experiences with Mr. Cross we might feel as he does. We doubt it.

To us Mr. Drew is just a mortal trying to breathe life into a jaded opposition in a pre-election session, and doing it better than his predecessor could have

done. To those who regard elections as a contest between personalities, we believe he will make a strong appeal. Those who think in terms of issues will want to know a great deal more than he has disclosed to date.

Apart from his stand on dominion-provincial relations, Mr. Drew has told us nothing. On that issue, by a gross distortion of the facts, he has made it appear as if the provinces are likely to sink to the level of a Turkish villayet unless the advice proffered by him and Mr. Duplessis is heeded in time. The western provinces, which have all entered into tax agreements with Ottawa, stand unmoved by this dread picture. Centralization is a bogey which frightens nobody out here.

On other issues Mr. Drew thunders against the government, but gives us no hint as to the course he will pursue. His lieutenants tell us that when they inveigh against bureaucracy they are thinking of the CBC. But Mr. Drew does not tell the farmers of the West, who have already expressed their approval of CBC control of the air, that he plans to end it. A Toronto financier has explained in Saturday Night why Mr. Drew will win the next election. Prominent among his predictions is the certainty that Canadian currency ought to and will be devalued. Among the gold miners, who have a legitimate grievance, currency speculators, and others, this prospect glistens. To the general public, who will have to stand the ensuing rise in the cost of living, it is no bright hope. But then Mr. Drew has not spoken, and it is not fair to charge him with the predictions of his lieutenants.

Of sound and fury there is plenty. Of constructive policy there is little. A bitter row over Hong Kong is worth another headline. But what good purpose is served now by raking over the ashes of grief tended in silence by thousands of Canadians? The speech over the Atlantic pact raises the ghost of the Borden-Bourassa alliance. Without any pre-election fireworks, the public want to know where Mr. Drew stands on this question. They would like to know the attitude of a prospective prime minister from Toronto toward expanding trade, import and export. Can the resolutions of the Ottawa convention be taken at their face value? Has the leopard changed his spots? With a contemporary we exclaim that one may "search the stenographic record of parliament in vain for any indication of Mr. Drew's attitude to any of the major problems of the nation" with the exception of dominion-provincial relations.

Perhaps we are asking too much of Mr. Drew too soon. Perhaps, as the campaign approaches, his position on many of these issues will become clear. When that time comes we may share Mr. Cross's enthusiasm. On the showing as of today we cannot go along with him.

## Alberta's New Union

As we go to press, news from Alberta indicates that the amalgamation of the U.F.A. and the old Farmers' Union is proceeding apace. Articles of amalgamation have been drawn, districts have been set up, and the re-organization of locals will be far advanced by the time seeding imposes reduced activity at the grass roots.

The Guide takes this opportunity of wishing the new Union well in the initial sign-up. Numbers are important if governments and non-farm groups are to be impressed with the potential weight of opinion behind the newly amalgamated union. The first response may be important in shaping its ultimate effectiveness. Old members of either of the parent bodies owe it to their defunct organizations to transfer their support without qualification to the new group so that none of the worthy ideals for which they have battled in the past be lost in the shuffle.

Alberta farmers' organizations have thrown up some able leaders, men and women. The Calgary convention which married the two old organizations demonstrated that the breed has not run out. The general level of responsibility will be no less than that of the U.F.A. at the height of its powers, nor less than what prevails in farm groups elsewhere. In the language of the radio announcer, "Give 'em a hand folks."



# NEWFOUNDLAND

*A thumb nail sketch of Britain's oldest colony which may soon become Canada's tenth province.*

by ADELAIDE LEITCH

ON the east coast of Canada, sits an island where fertile farms are produced from rocky hills; where rural woman are welded into strong groups for community betterment in villages where the only means of communication is the ten-day boat; where an organized T.B. campaign has succeeded in cutting down what was once the highest T.B. rate in the world.

It has been accused of being a "barren boulder on the horizon," by returning European visitors. But it boasts fur ranches scattered through the interior, fish processing and refrigeration plants that are acknowledged among the finest in America, and forests that are cut so carefully that they are expected to provide material "indefinitely" for two large paper concerns on the island.

Ancient tools, handed down from father to son, still break the soil in many an outport, but farming on the Big Island, once considered a pipe dream, is today a reality as, from an experimental farm, demonstration farm and farm school at Mount Pearl, outside the capital city of St. John's, field men travel the small steamers to the isolated outports. Crops are rotated according to science; lime is available for the lime-deficient soil; and series of government bonus systems are in effect to encourage cultivation of the land, good stock animals and better barns.

The best of the present and the best of the past combine and the outport farmers still spread caplin fresh from the sea over their fields for fertilizer . . . to the intense horror of the tourist who finds the succulent little fish on a par with smelts.

Mount Pearl, set in the midst of lush pastures, chicken hatcheries, barns and garden plots, keeps a constant check with Ottawa, both by bulletin and by visits of staff members. New discoveries must all be tested under island conditions before they can be passed along. Agriculture has fought against tremendous odds but it is winning, and Newfoundland hopes some day to be able to produce all the foodstuffs she requires, with the exception of wheat.

WHILE the men struggle to improve their fields, the outport women, once isolated and at loose ends, now work for progress within their own communities through the St. John's-centred Jubilee Guilds. The guilds started in the early '30's during an era of poor fishing. Lady Anderson, wife of the appointed governor, organized the women of St. John's to help the fishing communities and from this, in 1935, came the Jubilee Guilds, "an adventure in community service and a school of citizenship."

What the agricultural men did for farming, the guilds did for home life, teaching handicrafts, cooking, canning, nursing and child care to women living in isolated hamlets along the shore of the Big Island.

The tuberculosis campaign started with tall, blond Ted Meaney, a free lance journalist and himself three-time victim of the disease. Ted lay flat on

his back in 1941 and, as he put it, he "got to thinking." There were thousands of his countrymen cut off from the care and attention he was getting, and he decided to do something about it in the only way he knew—by writing.

His sheet he called "The Warrior," and it drew the attention of one of St. John's influential citizens, F. M. O'Leary, who took the battle to the Rotary Club and, eventually, set in motion the T.B. Association of St. John's with full government support and recognition. A stream of lectures, movies and handbooks followed and fifteen workers were trained to work in the outermost communities and to pave the way for clinics and a course of T.B. rehabilitation in St. John's.

In communities too small to support regular hospitals, homes have been taken over as "cottage hospitals" under the auspices of the Department of Health and Welfare.

SOMETIMES lone nurses are in charge in isolated outports, and weird messages go out over the Newfoundland radio . . . "If Nurse Jamieson of Happy Tickle will do so-and-so, little Johnny Edwards will be all right until a doctor gets there."

Two exceedingly wealthy and untapped resources may some day mean money jingling in Newfoundland's pockets—her fish-stocked streams and her tourist-luring scenery.

American sportsmen with time and money are already coming to the trout and salmon streams of the west coast which, little fished, are rich and virgin.

Three and a half hours by air from Sydney, Cape Breton, the Big Island has tourist attractions and historic sites that would be strong drawing cards were adequate transportation and accommodation available. In the harbor of St. John's the visitor can glimpse the old sealing ships with the hustle and bustle about them in early spring, the tall-masted Portuguese ships and the small, colorful fishing skiffs that go out before dawn, past the light on Chain Rock, to the open Atlantic.

On Bell Island, there are red sheep. In the small villages, goats roam the streets in their tri-corner collars and, on the coast, you can see fresh fish "pitched" up the solid face of rock and spread to dry on the flakes.

The scenery is rugged and lovely. A tourist cruiser on the supply ship course, threading the islands and calling at such places as Exploits with its exquisite harbor and tiny white churches, could fill its passenger list every run. A rail trip across the island gives you plateaus, laced with minute lakes and streams set in solid rock. For the ornithologist, there is an assortment of both land and sea birds; for the adventurer, glimpses of unexplored country known only to the aerial surveyist.

The people have rubbed shoulders with people of many countries on their travels and fishing trips. They are exceptionally well versed in world affairs, the arts and culture.

They are a people well worth knowing.

## QUAKER OATS HELPS GROW

# "Stars of the Future"

Doctors say the more often youngsters eat a good oatmeal breakfast, the better they grow



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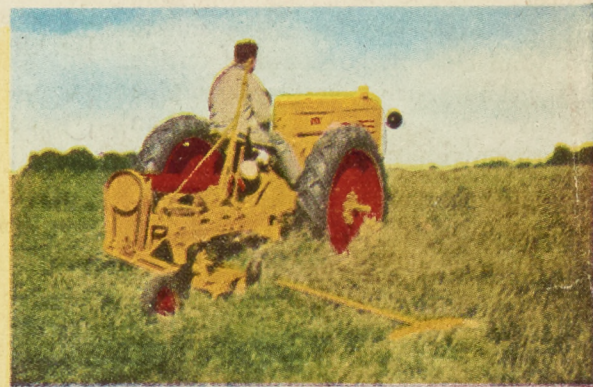
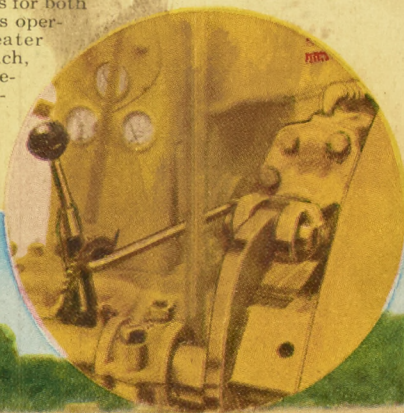
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